

## EXHIBIT H

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 IN THE UNITED STATES DISTRICT COURT

2 SOUTHERN DISTRICT OF OHIO

3 EASTERN DIVISION

4 ----- X

:

5 IN RE: E.I. DU PONT DE NEMOURS AND :CASE NO.

COMPANY C8 PERSONAL INJURY : 2:13-MD-2433

6 LITIGATION :

:

7 THIS DOCUMENT RELATES TO: :

:JUDGE EDMUND A.

8 BARTLETT ET AL V. E. I. DU PONT DE :SARGUS, JR.

NEMOURS AND COMPANY, 2:13-CV-00170 :MAGISTRATE JUDGE

9 (S.D. OHIO 2013) :ELIZABETH P.

and :DEAVERS

10 WOLF V. E. I. DU PONT DE NEMOURS :

AND COMPANY, 2:14-CV-00095 (S.D. :

11 OHIO 2014) :

----- X

12 ST. LOUIS, MISSOURI

13 WEDNESDAY, MARCH 18, 2015

15 VIDEOTAPED DEPOSITION OF DAVID MACINTOSH,

16 a witness herein for Plaintiff, called for

17 examination by counsel for Defendant, pursuant to

18 Notice, taken at 100 South Fourth Street, Suite 600,

19 St. Louis, Missouri, beginning at 9:03 a.m. and

20 ending at 1:10 p.m., Wednesday, March 18, 2015,

21 before Carrie A. Campbell, Certified Realtime

22 Reporter, Illinois, Texas Certified Shorthand

23 Reporter, Missouri Certified Court Reporter,

24 California Certified Shorthand Reporter No. 13121,

25 RPR.

Unsigned

Page 1

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 APPEARANCES:

2 On behalf of the Plaintiff:

3 Gary J. Douglas

4 Lara J. Say

5 Rebecca Newman

6 DOUGLAS & LONDON, P.C.

7 59 Maiden Lane, Sixth Floor

8 New York, New York 10038

9 (212) 566-7500

10 gdouglas@douglasandlondon.com

11 lsay@douglasandlondon.com

12 rnewman@douglasandlondon.com

13  
14 and

15  
16 Ned McWilliams

17 LEVIN PAPANTONIO THOMAS MITCHELL RAFFERTY &

18 PROCTOR, P.A.

19 316 South Baylen Street, Suite 600

20 Pensacola, Florida 32502

21 (850) 435-7000

22 nmcwilliams@levinlaw.com

23  
24 and

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Ashley Brittain-Landers  
2 SCHLICHTER, BOGARD & DENTON, L.L.P.  
3 100 South Fourth Street, Suite 900  
4 St. Louis, Missouri 63102  
5 (314) 621-6115  
6 alanders@uselaws.com  
7

8 On behalf of the Defendant:  
9 Steven Fazio  
10 SQUIRE PATTON BOGGS (US) LLP  
11 127 Public Square, Suite 4900  
12 Cleveland, Ohio 44114  
13 (216) 479-8500  
14 steven.fazio@squirepb.com  
15

16 VIDEOGRAPHER:  
17 LYNN REINA, CLVS  
18  
19  
20  
21  
22  
23  
24  
25

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 CONTENTS

2 THE WITNESS

3 DAVID MACINTOSH

4 EXAMINATIONS

5 BY MR. FAZIO..... 7

6

7 EXHIBITS

8	No. Description	Page
9	1: MacIntosh expert report	8
10	2: "Environmental Fate and Transport	13
11	Modeling for Perfluorooctanoic Acid	
12	Emitted from the Washington Works	
13	Facility in West Virginia"	
14	3: MacIntosh curriculum vitae	41
15	4: MacIntosh statement of compensation	41
16	5: MacIntosh trial or deposition testimony	41
17	6: Materials relied on, reviewed and/or	41
18	considered by Expert Dr. David MacIntosh	
19	7: Attachment 4, Table 1	42
20	8: MacIntosh retention agreement	85
21	9: MacIntosh invoices	86
22	10: Information related to Carla Bartlett	88
23	11: Information related to John Wolf	90
24	12: Residential history of John Wolf	91

25

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1	13: Record of information gathered when	93
2	speaking with Mr. Wolf	
3	14: Record of information gathered when	97
4	speaking with Ms. Bartlett	
5	15: Notes of Taeko Minegishi made on	110
6	January 7, 2015	
7	16: Photographs A - S	112
8	17: Supplemental materials reviewed and/or	118
9	considered by Expert Dr. David MacIntosh	
10	18: Notice of deposition of Dr. David	136
11	MacIntosh	

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 VIDEOGRAPHER: We are now on the record in  
2 the matter of E.I. du Pont de Nemours and Company C8  
3 Personal Litigation, cause number 2:13-MD-2433, in  
4 the US District Court for the Southern District of  
5 Ohio, Eastern Division.

6 Today's date is March 18, 2015. The time  
7 is 9:03 a.m. This is the video-recorded deposition  
8 of Dr. David MacIntosh, being taken at Schlichter,  
9 Bogard & Denton, 100 South Fourth Street, Suite 600,  
10 St. Louis, Missouri, 63102.

11 I am the camera operator. My name is Lynn  
12 Reina, certified legal video specialist, in  
13 association with Alderson Reporting, located at 1155  
14 Connecticut Avenue Northwest, Washington, DC.

15 The court reporter is Carrie Campbell,  
16 also in association with Alderson Reporting.

17 Will all attorneys please identify  
18 themselves and the parties they represent, beginning  
19 with the party noticing this proceeding.

20 MR. FAZIO: Steven Fazio with Squire  
21 Patton Boggs on behalf of defendant DuPont.

22 MR. MCWILLIAMS: Ned McWilliams on behalf  
23 of the plaintiffs.

24 MS. SAY: Lara Say on behalf of the  
25 plaintiffs.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 MS. NEWMAN: Rebecca Newman on behalf of  
2 the plaintiffs.

3 MR. DOUGLAS: Gary Douglas on behalf of  
4 the plaintiffs.

5 MS. LANDERS: Ashley Brittain-Landers on  
6 behalf of the plaintiffs.

7 VIDEOGRAPHER: Will the court reporter  
8 please administer the oath.

9  
10 Whereupon,

11 DAVID MACINTOSH,  
12 was called as a witness by counsel for Defendant and  
13 having been duly sworn by the court reporter, was  
14 examined and testified as follows:

15  
16 DIRECT EXAMINATION

17 QUESTIONS BY MR. FAZIO:

18 Q. Good morning, Dr. MacIntosh.

19 A. Good morning, Mr. Fazio.

20 Q. Could you tell me, what is your  
21 profession, Dr. MacIntosh?

22 A. I'm in a consulting profession.

23 Q. Okay. And specifically what kind of  
24 consulting do you do?

25 A. I do consulting in the area of

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 environmental health and engineering.

2 Q. And who do you work for?

3 A. I'm employed by a company that has the  
4 name Environmental Health and Engineering,  
5 Incorporated.

6 Q. Okay. You understand that you've been  
7 identified as an expert witness in a case brought by  
8 Carla Bartlett against DuPont?

9 A. Yes.

10 Q. Okay. And you also understand that you've  
11 been identified as an expert witness in a case  
12 brought by John Wolf against DuPont; is that  
13 correct?

14 A. Yes.

15 Q. Okay. Is there any reason that you cannot  
16 answer my questions fully and truthfully today?

17 A. No.

18 (MacIntosh Exhibit 1 marked for  
19 identification.)

20 QUESTIONS BY MR. FAZIO:

21 Q. Doctor, you've been handed what's been  
22 marked as Exhibit 1, which is the narrative portion  
23 of the report that was served on the defendants in  
24 this case.

25 Do you recognize that report, sir?



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Yes, I do.

2 Q. Okay. Sir, can you tell me, what were you  
3 asked to opine on in this case?

4 A. I was asked to opine on whether  
5 Ms. Bartlett and Mr. Wolf met the criteria for  
6 inclusion in the class for PFOA-identified -- or  
7 defined as part of a previous matter. It appears on  
8 page 3 of my report.

9 Q. Okay. And so when you say "PFOA," are you  
10 talking about PFOA, or perfluorooctanoic acid?

11 A. Yes.

12 Q. Okay. We might refer to that as C8 today  
13 as well. If I say "C8," you'll understand I'm  
14 referring to PFOA?

15 A. Yes.

16 Q. Okay. And so on page -- beginning on  
17 page 2 and going to page 3, you have the research  
18 question -- or a section of your report entitled  
19 "Research Question," and you say that you were asked  
20 to determine whether Bartlett -- Ms. Bartlett or  
21 Mr. Wolf had sufficient exposure to PFOA through the  
22 drinking water to qualify as class members under the  
23 definition that follows on page 3.

24 Was that the only issue that you were  
25 asked to opine on in this case?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1       A. Yes, that was the -- that was the question  
2       that I was asked to answer.

3       Q. Okay. And I take it your answers are  
4       summarized in section 3 on page 2 above where you  
5       say "Summary of Opinions"?

6       MR. MCWILLIAMS: Object to form.

7       THE WITNESS: The -- yeah, my opinions  
8       about whether they each had sufficient exposure to  
9       qualify as class members are, indeed, presented  
10      there in section 3.

11      QUESTIONS BY MR. FAZIO:

12      Q. Okay. And your opinion, as I understand  
13      your report, is that both Ms. Bartlett and Mr. Wolf  
14      were both class members?

15      A. Yes.

16      MR. MCWILLIAMS: Object to form.

17      QUESTIONS BY MR. FAZIO:

18      Q. Okay. And Ms. Bartlett became -- or first  
19      met the criteria for class membership in December  
20      of 1984; is that correct?

21      A. Yes, that was what I found.

22      Q. Okay. And Ms. -- with regard to Mr. Wolf,  
23      you found that he first met the criteria for class  
24      membership no later than December of 2000; is that  
25      correct?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Yes, again, that's what I found.

2 Q. All right. Tell me -- tell me about how  
3 you went about determining whether they met the  
4 criteria for class membership.

5 A. Well, the approach that I followed is  
6 described in the -- in the report, but I'm happy to  
7 elaborate on that --

8 Q. Yeah, please do.

9 A. -- if you like.

10 All right. Well, this was in -- in my  
11 mind, an exposure assessment, and that's an activity  
12 that I engage in routinely. It's an area in which I  
13 have training and education and a couple decades of  
14 experience.

15 So I brought the totality of my -- of my  
16 work history, my professional history, into this  
17 matter. And I also examined the work that had been  
18 done specifically on evaluating exposures to PFOA by  
19 members of that C8 science panel and their research  
20 teams.

21 Q. Okay. Well, let's step through what's  
22 described in section .6 -- or section 6.1, which is  
23 entitled "Approach" on page 5.

24 I don't think we need to go into this into  
25 great detail.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 I mean, as I understand the work that  
2 you've done, essentially you went and looked at  
3 Mrs. Bartlett and Mr. Wolf's respective residential  
4 histories; is that accurate?

5 MR. MCWILLIAMS: Object to form.

6 THE WITNESS: I did examine each of their  
7 residential histories, yes.

8 QUESTIONS BY MR. FAZIO:

9 Q. Okay. And so you determined -- tried to  
10 catalog where they lived and when they lived at  
11 those various locations; is that accurate?

12 A. I did.

13 I had information from various sources,  
14 like their depositions, and there was some plaintiff  
15 fact sheets that had residential history. And then  
16 I verified that, which is a normal thing to do in my  
17 work, by examining public records and speaking with  
18 them, too.

19 Q. Okay. And the materials that you reviewed  
20 and the things you're relying on, I take it, are --  
21 you've cited in your report in terms of determining  
22 where they lived and when they lived there.

23 For Ms. Bartlett and Mr. Wolf, it's  
24 summarized on pages -- or it's set forth on pages 6  
25 through 10 of your report?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Yes, that's correct.

2 Q. Okay. And in terms of determining where  
3 Mr. Wolf and where Ms. Bartlett lived and when they  
4 lived there, the materials that you're relying on,  
5 you've cited all those in the footnotes to your  
6 report?

7 A. Yes, I have.

8 Q. Okay. All right. You mentioned examining  
9 some work that the science panel had done.

10 (MacIntosh Exhibit 2 marked for  
11 identification.)

12 QUESTIONS BY MR. FAZIO:

13 Q. Handing you what's been marked as  
14 Exhibit 2 --

15 A. Okay.

16 Q. -- which is an article from Environmental  
17 Science and Technology entitled "Environmental Fate  
18 and Transport Modeling for Perfluorooctanoic Acid  
19 Emitted from the Washington Works Facility in West  
20 Virginia," which was published in January of 2011.

21 Are you familiar with this article?

22 A. Yes, I am.

23 Q. Okay. And when you were mentioning  
24 earlier that you have looked at some of the modeling  
25 work that the science panel had conducted, is this

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 specifically what you were referring to?

2 MR. MCWILLIAMS: Object to form.

3 THE WITNESS: This -- this document is one  
4 of many that I examined.

5 QUESTIONS BY MR. FAZIO:

6 Q. Okay. Okay. So in terms of estimating  
7 the actual exposures for Mr. Wolf and Ms. Bartlett,  
8 is this where -- was this the source of the data  
9 that you relied on?

10 MR. MCWILLIAMS: Object to form.

11 THE WITNESS: This is one of the several  
12 sources. I would say this is a primary source.

13 It's -- it, in turn, references other data.

14 QUESTIONS BY MR. FAZIO:

15 Q. Okay.

16 A. And it's a culmination of -- it describes  
17 the culmination of a modeling and analysis, exposure  
18 assessment, effort undertaken by this group.

19 And so I looked at their other work as  
20 well.

21 Q. Okay. Well, let's -- so let's go back to  
22 Exhibit 1, page 5.

23 A. Okay.

24 Q. It's at the bottom of that page. You say,  
25 "With regard to PFOA levels in public drinking

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 water, I relied on the annual average concentrations  
2 of PFOA for the Tupper Plains-Chester Water  
3 District and Lubeck Public Water District  
4 attributable to the Washington Works Plant reported  
5 by the panel in Figure 2 of Shin, et al., 2011."

6 So you were referring to this -- to  
7 Exhibit 2 in that sentence, correct?

8 A. Yes, I was, uh-huh.

9 Q. Okay. So we'll get to the other things  
10 you considered in a few minutes.

11 A. Okay.

12 Q. But in terms of the work that you did here  
13 in terms of quantifying the exposures, you relied  
14 primarily on Exhibit 2?

15 MR. MCWILLIAMS: Object to form.

16 THE WITNESS: I did rely on this paper,  
17 and as I said, it, in turn, references other  
18 information.

19 QUESTIONS BY MR. FAZIO:

20 Q. Okay. Can you describe for me how it was  
21 that you went about estimating the levels of PFOA in  
22 the public drinking water for Tupper Plains and  
23 Lubeck using Shin -- the Shin 2011 article?

24 A. Yes.

25 So I -- I reviewed and examined the

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 modeling methodology that was employed by the -- the  
2 investigators, you know, or the authors of this  
3 paper.

4 And I examined their other publications  
5 that go into further detail about components of the  
6 modeling, all of which -- or at least some of which  
7 contribute to the predicted drinking water  
8 concentrations that appear in this Exhibit 2.

9 And I, you know, made my own evaluation,  
10 independent evaluation, of the validity and  
11 reliability of the approach that they took and the  
12 results that they obtained. And I found their  
13 approach to be -- and their results to be reliable.  
14 They fit within the norms of my profession.

15 And having done that, I then relied on the  
16 model or predicted water concentrations for each of  
17 those districts as a function of time that are  
18 reported in this Exhibit 2.

19 Q. Okay. And specifically how was it that  
20 you went about extracting -- so Figure 2 is a -- is  
21 a graph, right?

22 A. Yes, it is.

23 Q. Okay. So how is it that you went about  
24 extracting from the graph the numbers that you set  
25 forth in your report --



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Well --

2 Q. -- for predicted PFOA concentrations?

3 A. That's described in my report, too, but I  
4 can -- I can just --

5 Q. Yeah, why don't you --

6 A. -- talk about it a little bit.

7 So the need there, what needs to be done,  
8 is to identify a number that goes with each point on  
9 the graph.

10 So we need to extract the number off of  
11 the graph, in this case several numbers off of the  
12 graph. And the way I did that is to use a software  
13 tool that's designed to do just that. It's a tool  
14 that digitizes an image like this, and then you can  
15 scale that or align that digitized image to the  
16 numerical axes, you know, the horizontal and the  
17 vertical axis on this chart.

18 And from that the -- you'd put -- using  
19 the software then you can pinpoint a portion or a  
20 spot on a line, and then the software will return  
21 the value that goes with that point.

22 Q. Okay. And so to be clear, Doctor -- so  
23 Shin Figure 2, there are -- there are lines on Shin  
24 Figure 2 which are the calibrated, predicted  
25 concentrations that the science panel estimated, or

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Shin and his coauthors estimated, and then there are  
2 also points on that figure, correct?

3 A. That's right.

4 Q. And the points represent observed  
5 concentrations, so actual measured -- measurements  
6 of PFOA in drinking water or in water that were  
7 observed during the periods of time indicated on the  
8 graph, correct?

9 A. Right. That's my understanding. Uh-huh.

10 Q. And when you digitized this, were you  
11 digitizing the lines, the points or both?

12 A. I digitized the lines.

13 Q. Okay.

14 A. The -- well, I guess the -- I mean, the  
15 points were digitized, too. The values that I  
16 extracted were from the lines.

17 Q. Okay. So the values that you extracted  
18 were the calibrated, predicted concentrations  
19 expressed in Figure 2?

20 A. Correct.

21 Q. Okay. Now, I take it you had to do that  
22 because the -- because Shin and his coauthors  
23 haven't published the data that underlies Figure 2?

24 A. I'm not aware of the -- like a tabulated  
25 version of this chart that could have been used

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1       instead. So that's right.

2           Q. When you actually do the conversion,  
3       what's the -- you actually -- you select particular  
4       points in time on the lines?

5           A. Right.

6           Q. Is that -- that's the way that it works?

7           A. Right.

8           Q. Okay. So you don't -- doesn't produce  
9       a -- it doesn't take the entire line and estimate  
10       for -- strike that.

11           I'll take it -- go back.

12           So you selected particular points in time  
13       on each of the lines?

14           A. Correct.

15           Q. Okay. How did you determine where you  
16       were going to put those points?

17           A. I did that by digitizing the X axis -- so  
18       that's time, right? -- and by equally spacing  
19       the distance in between tick marks on the lines.

20           Say, for example, between 1980 and 1990,  
21       you can then infer where on that horizontal axis you  
22       would find 1981 and '82 and '83 and so on.

23           And then in that software you can have the  
24       software put the -- a grid line in that inferred  
25       year -- point for the year, and then you can go up

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 that -- that now vertical line, see where it  
2 intersects the curve for the drinking water  
3 concentrations and then pinpoint that point, mark  
4 that point on the curve.

5 Q. Okay. So the -- you essentially estimated  
6 between -- on the X axis, you essentially estimated  
7 where the years would begin for each of the years  
8 you were considering?

9 MR. MCWILLIAMS: Object to form.

10 THE WITNESS: Yeah, where the years would  
11 be. Not necessarily begin, but where they would be.

12 QUESTIONS BY MR. FAZIO:

13 Q. Okay. And so the software itself actually  
14 produces -- the output of the software actually  
15 tells you what the value of the line would be right  
16 at the mark -- at the point that you're asking?

17 A. That's correct.

18 Q. Is that correct?

19 A. That's correct, yeah.

20 Q. Okay. Now, as I understand your report,  
21 you describe the values that you determined for  
22 Ms. Bartlett and Mr. Wolf as average annual values;  
23 is that correct?

24 A. Yes. They are annual average values.

25 That's the increment in time that the Shin, et al.,

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 provided estimates.

2 Q. Okay. So your understanding is that each  
3 one of those points -- so if you, for example, were  
4 looking at Ms. Bartlett in 1997 --

5 A. Uh-huh.

6 Q. -- and you put a point on the line for  
7 Tupper Plains in 1997 where it intersected the line  
8 for Tupper Plains in Shin Figure 2, that would  
9 actually be equivalent to the annual average?

10 A. That's -- yes, that's what I -- that's  
11 what I did, and that's what I believe to be the case  
12 here, yeah.

13 Q. Okay. So you didn't actually average  
14 anything. You just extracted the data directly from  
15 Shin Figure 2?

16 A. That's right.

17 Q. Okay. Now, you -- in your report you  
18 describe a sensitivity analysis?

19 A. Yes.

20 Q. Can you tell me exactly how you performed  
21 this sensitivity analysis?

22 A. Yes.

23 So the purpose of the sensitivity analysis  
24 was to characterize the amount of variability that  
25 one could expect to arise from one individual

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 performing that procedure that we just went through,  
2 that we just described, right? Marking the spot and  
3 extracting the number.

4 Because it's -- even though the software  
5 digitizes the figure, pinpointing the spot and also  
6 aligning the axes is done by the user. And so it's  
7 possible that different people could do it somewhat  
8 different and get somewhat different results.

9 And so I recognized that that was a  
10 potential source of uncertainty, and I wanted to  
11 characterize the magnitude of that uncertainty.

12 So what I did was had a dozen people -- I  
13 was one of them -- in my firm get trained on how to  
14 use the software and then apply the software to  
15 extract the values for each of the years. And then  
16 I compared the extracted values across the -- the  
17 individuals.

18 And I wanted to know how -- I wanted to  
19 know the extent of the agreement between these  
20 extracted -- of these extracted values among these  
21 people.

22 Q. Okay. So you -- let me just step through  
23 what you just talked about.

24 A. Sure.

25 Q. So first you talked about you trained --

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 well, first you talked about training 12 people.

2 Was there any special significance to

3 using 12 people or it was just --

4 A. I wanted to be able to have a -- yeah,

5 there was some significance.

6 Q. Okay.

7 A. I wanted to have a large enough set of

8 observations to characterize the central tendency of

9 this uncertainty and the distribution of the -- the

10 dispersion, you know, of the uncertainty, too.

11 Q. Okay. And then you said that you trained

12 them.

13 What sort of training were people given on

14 how to use the software?

15 A. They were -- well, one of my staff members

16 learned how to use the software, became quite adept

17 at it, and then, in turn, gave each of these 11

18 people, besides herself, training on how to use it.

19 So the mechanics of using the software.

20 And also, you know, here's what you do to

21 align the axes. You use, you know, this pull-down

22 menu and -- you know, with this click. And then

23 here's what you need to do to extract a point.

24 So they had training to that level. And

25 then they went and did it.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Q. Okay. And who was the staff member that  
2 did this training for you?

3 A. That was Taeko Minegishi.

4 Q. And just so we're clear, the software  
5 we're talking about is something called the Engauge  
6 Digitizer?

7 A. That's right.

8 Q. Okay. And that's -- is that -- that's  
9 freeware, something that you can just download from  
10 the Internet, or do you have to pay for it?

11 A. It's downloaded from the Internet. I  
12 don't recall. We might have had to pay.

13 Q. Okay. Have you ever used this technique  
14 before in any of your other work?

15 A. I've certainly extracted information from  
16 charts before. I don't know that I've actually used  
17 the Engauge Digitizer tool for doing it previously.

18 Q. Was there any particular reason you chose  
19 Engauge over some other software platform?

20 A. I found it to be a common -- a commonly  
21 used software, and then I cited some examples of its  
22 use in -- in my report.

23 Q. Now, you say you were one of the people  
24 who engaged in this sensitivity analysis?

25 A. I did.



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Q. The original extraction from Shin  
2 Figure 2, did you personally do that, or was that a  
3 member of your staff?

4 MR. MCWILLIAMS: Object to form.

5 THE WITNESS: The original?

6 QUESTIONS BY MR. FAZIO:

7 Q. Uh-huh.

8 A. What do you mean by "the original"?

9 Q. So as I understand it, there were -- the  
10 values from Shin Figure 2 were extracted 13 times,  
11 correct?

12 A. 12, I believe it was.

13 Q. Oh, it was 12?

14 A. Uh-huh.

15 Q. So 12 times.

16 So did you -- and you personally conducted  
17 one of those 12 extractions; is that correct?

18 A. Yes, I did.

19 Q. Okay. Now, the values ultimately that  
20 you -- that you report in your -- in Exhibit 1, your  
21 expert report --

22 A. Uh-huh.

23 Q. -- were those from -- were those the ones  
24 you personally extracted, or were those from someone  
25 else?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. You know, I don't remember, but I would  
2 guess it was either mine or the average of all 12.

3 But I'm not sure. I can find out, but I'm not sure.

4 Q. Okay.

5 A. I just don't recall as we sit here.

6 Q. Okay. So you're not sure if it was -- if  
7 there was one particular one that was chosen or if  
8 it was averaged?

9 A. Like I said, I don't recall as I sit here,  
10 but I do know that the overall variability among the  
11 12 people was quite small. But it's -- that's  
12 described in footnote 20 of my report.

13 Q. So aside from placing the points onto this  
14 grid in the Engauge Digitizer, are there any other  
15 assumptions that need to be made in performing this  
16 analysis?

17 MR. MCWILLIAMS: Object to form.

18 THE WITNESS: Well, I mentioned one  
19 already, and I'm not sure if you were incorporating  
20 that into your question or not, but that's -- you  
21 also have to align the axes.

22 QUESTIONS BY MR. FAZIO:

23 Q. Okay.

24 A. So that's part of it.

25 Q. So align the axes, and then you need to

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 identify the specific points that you're attempting  
2 to extract the values for.

3 Is there anything else that you need to do  
4 where the user makes -- elects -- makes some sort of  
5 election about how the software is going to be run?

6 A. Not that I recall.

7 There may be some ones, but those would be  
8 the primary elections, as you put it --

9 Q. Okay.

10 A. -- that I recall right now.

11 Q. Are there any other assumptions that go  
12 into how you perform the analysis --

13 MR. MCWILLIAMS: Objection.

14 QUESTIONS BY MR. FAZIO:

15 Q. -- other than what you've already  
16 described for us?

17 MR. MCWILLIAMS: Object to form.

18 THE WITNESS: Like I said, I don't -- I  
19 don't recall if there were any other specific ones  
20 right now, but I'd be happy to look into that and  
21 answer the question more fully if -- if needed.

22 QUESTIONS BY MR. FAZIO:

23 Q. Now, Doctor, the sensitivity analysis that  
24 you conducted, really what you're doing is  
25 determining the consistency with which the data is

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 being extracted from Shin Figure 2; is that correct?

2 A. That was -- that's a fair way of  
3 describing the objective.

4 Q. All right. And so the sensitivity  
5 analysis, it doesn't evaluate the underlying  
6 accuracy of the Shin model; is that correct?

7 A. Right. That was a separate activity.

8 Q. Okay. We touched on this a few minutes  
9 ago, but I want to make sure I'm clear on it.

10 So Figure 2, the lines represent the  
11 calibrated predicted concentrations, and I think you  
12 testified that the points are actual observations  
13 where there were water samples taken and reported.

14 And you -- you relied on the lines,  
15 correct?

16 A. Yes, I relied on the lines for the  
17 extraction that we just discussed.

18 Q. Okay. So the points that appear on Shin  
19 Figure 2, do those factor into your analysis in any  
20 way?

21 MR. MCWILLIAMS: Object to form.

22 THE WITNESS: The points that appear on  
23 Figure 2 are definitely information that I  
24 considered.

25

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1      QUESTIONS BY MR. FAZIO:

2            Q.    Okay. And how did you consider them?

3            A.    Well, I -- in part, in the way that  
4    they're presented here in the paper, which is as a  
5    reference against which the predicted values, the  
6    lines, can be evaluated.

7            Q.    Okay.

8            A.    So what the authors of this paper were  
9    doing was comparing their predicted drinking water  
10   concentrations of PFOA to measured values of PFOA  
11   in -- from the drinking water systems in an effort  
12   to characterize the performance of their modeling.

13          Q.    Okay. So we talked about the model a  
14   couple times --

15          A.    Uh-huh.

16          Q.    -- but let's -- it's actually -- let's  
17   talk a little bit about specifically what Shin did  
18   because it's a little bit more complicated than just  
19   the model.

20                So there are actually a series of models  
21   that are linked together; is that correct?

22          A.    I agree, yes.

23          Q.    Okay. There's an air dispersion model?

24          A.    Yes.

25          Q.    Okay. There's a vadose zone model?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Yes.

2 Q. Okay. What does the vadose zone model  
3 estimate?

4 A. So the vadose zone model is characterizing  
5 transport of PFOA from the surface of the soil down  
6 through -- as it percolates through underlying soil,  
7 and eventually having the potential to reach the  
8 underlying aquifer.

9 Q. And then there's also a surface water  
10 model; is that correct?

11 A. That's correct.

12 Q. Okay. And then ultimately there's a  
13 groundwater model?

14 A. Correct.

15 Q. And actually there are two groundwater  
16 models, are there not? One MODFLOW and then  
17 something called MP3DMS {sic}?

18 A. That's right.

19 Q. Okay. And those models are all linked  
20 together in -- to form the ultimate -- ultimately  
21 the predictions that appear in Shin Figure 2?

22 A. Yeah, that's right.

23 It was, I would say, quite an extensive  
24 effort on the part of these investigators to link  
25 those models to produce the -- the results that

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 appear in this paper.

2 Q. Would you agree with me it's a complex set  
3 of models?

4 MR. MCWILLIAMS: Object to form.

5 THE WITNESS: I think a lot of models are  
6 complex. There's no doubt about it.

7 I think that the -- the complexity, if you  
8 will, of the effort is -- of this particular effort  
9 is expanded beyond the complexity that you would  
10 have in just applying any one of these models.

11 And I'll tell you, in part, that's one of  
12 the reasons why it's -- the agreement between the  
13 predicted and observed drinking water concentrations  
14 is high, in my mind.

15 You know, despite the complexity of the  
16 models, the need -- the need for information that  
17 these models have, that when put together, they can  
18 produce reasonable estimates of the drinking water  
19 concentrations of PFOA.

20 QUESTIONS BY MR. FAZIO:

21 Q. Doctor, were you personally involved in  
22 any way in the work of the C8 science panel?

23 A. No, I was not involved in any way.

24 Q. Was EH&E, your company, involved?

25 A. No, not that I'm aware of.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Q. Okay. So you weren't involved in  
2 gathering any of the data or making any of the  
3 analyses that's reflected in the Shin 2011 paper?

4 A. No, I was not.

5 Q. Have you ever spoken to Dr. Shin or any of  
6 his coauthors about how they conducted the modeling?

7 A. I have not spoken with Dr. Shin. I have  
8 spoken with Barry Ryan, who is one of the coauthors.

9 Q. And you talked to Barry Ryan about the  
10 modeling work they did in this case?

11 A. I talked to him about it generally over  
12 time.

13 Q. Okay.

14 A. He and I have known each other since -- in  
15 1992, and we're colleagues and work -- kind of like  
16 professional friends, and so we talk from time to  
17 time. And sometimes we talk about what we're doing.  
18 Sometimes we talk about our families. And so we've  
19 discussed some of what they've been doing over time.

20 Q. So -- well, tell me -- so I understand you  
21 may have a personal relationship.

22 A. Uh-huh.

23 Q. And obviously I'm not asking you to tell  
24 me about your conversations with Dr. Ryan as it  
25 involves your families.



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Okay.

2 Q. But as it involves the modeling or the  
3 work that the C8 science panel has done in -- you  
4 know, in this case -- or not in this case, but the  
5 C8 science panel has done --

6 A. Uh-huh.

7 Q. -- why don't you tell me about the  
8 conversations you've had with him.

9 How many times do you think you've spoken  
10 with Dr. -- or with -- I assume it's Dr. Ryan?

11 A. Yeah, Dr. Ryan.

12 Q. -- Dr. Ryan about the work that was done  
13 by the C8 science panel?

14 A. Oh, I couldn't say for sure, but I'd say  
15 somewhere -- a few. Less than three. You know, we  
16 don't see each other as much anymore as we used to,  
17 and this work wasn't done that long ago, so there's  
18 not that many occasions for us to talk about it.

19 Q. All right. So what was -- so the first  
20 time that you remember talking to him, what were the  
21 circumstances that led to the conversation about the  
22 work they were doing?

23 A. Oh, I don't even know. I don't --  
24 honestly, I don't, Steve -- Mr. Fazio. It could  
25 have been on the phone. It could have been at a

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 conference. It could have been -- who knows. I  
2 really don't recall.

3 Q. Okay. Do you recall from any of your  
4 conversations with Dr. Ryan specifically what he  
5 told you about the modeling work that was being  
6 done?

7 A. Not specifically.

8 I could tell you generally that he was --  
9 conveyed that he was excited and interested in this  
10 body of work that they were doing, and he was  
11 particularly excited about the opportunity to link  
12 all these models together.

13 He's a -- he's an academic researcher.  
14 The opportunity to do work like this motivates him.  
15 So it was that kind of discussion.

16 Q. And so, Doctor, tell me, when do you  
17 recall these conversations occurring?

18 A. Over the last, on and off, maybe five  
19 years, something like that. You know, like I said,  
20 I talk to him every now and then.

21 Q. Did you ever reach out to or speak with  
22 Dr. Ryan specifically to obtain information for your  
23 use in this case?

24 A. No, I did not talk to him specifically to  
25 get information in this case.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Q. Okay. Have you ever had any  
2 communications with him, whether spoken or  
3 otherwise, regarding work that the science panel or  
4 work that's -- that was done in -- relating to the  
5 science panel?

6 Did you ever communicate with him in any  
7 way to obtain information that you would be using --  
8 you used in this case?

9 A. No.

10 Q. Okay. So is it fair to say that your  
11 communications with Dr. Ryan, they were just -- it  
12 was a general professional discussion about the work  
13 that he was doing?

14 A. I think that's right, yeah.

15 Q. Okay.

16 A. Uh-huh.

17 Q. And you're not relying in -- on any of  
18 those conversations in -- as a basis for your  
19 opinions in this case?

20 A. No.

21 Q. All right. You mentioned Dr. Ryan.

22 Were there any other -- any other people  
23 that you've talked to from either the C8 science  
24 panel or any of the Shin coauthors regarding the  
25 modeling work that was done?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. No.

2 Q. Did you have access to any of the input or  
3 output files for any of the models described in Shin  
4 2011?

5 A. Not that I'm aware of, no.

6 Q. Is there a circumstance where you would  
7 have access to them and you would not know it?

8 MR. MCWILLIAMS: Object to form.

9 THE WITNESS: I don't think so.

10 QUESTIONS BY MR. FAZIO:

11 Q. Okay. Now, you touched on this earlier,  
12 but I think you indicated that you took some steps  
13 to verify or validate the modeling done by Shin; is  
14 that correct?

15 A. I did.

16 Q. Okay. Tell me what you did in that  
17 regard.

18 A. Well, did a couple things in general and  
19 then many specifically.

20 The couple things in general were to --  
21 one was to review the literature produced by the  
22 investigators who did this work, and the other was  
23 to form my own conceptual model of the -- what I  
24 would expect to be the case, you know, be the  
25 situation, with regard to transport and fate of PFOA

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 in this area.

2 And then, you know, I put those two pieces  
3 of information together to -- to form an opinion of  
4 my own about the reliability of their work.

5 Q. Okay. Well, let's talk -- we'll take this  
6 out of order.

7 You say --

8 A. Okay.

9 Q. -- you created your own conceptual model.

10 What do you mean by "conceptual model"?

11 A. I mean a mental model of how I would  
12 expect the PFOA to move through the environment and  
13 what -- and the kind of pieces of information one  
14 would need to -- to estimate or simulate that  
15 transport and fate. And I did that based on my own  
16 experiences, my own training and education in this  
17 field.

18 You know, it starts with -- with having  
19 some understanding of how the material's released  
20 and, you know, the disposition of the release, in  
21 what media, over what time periods, and it also --  
22 early on one needs to have some understanding of the  
23 physical and chemical properties of the chemical  
24 because those can influence the transport and fate,  
25 will influence the transport and fate.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1           And then knowing that the material was  
2   discharged to surface water and to air, you know, I  
3   formed a -- my own ideas about how that transport  
4   could be simulated and how -- again, the pieces of  
5   information one would need to perform that type of  
6   estimation.

7           And then part of that mental model, too,  
8   was where I would expect the PFOA to appear in the  
9   environment and in relative amounts.

10          And then I took that through -- from the  
11   groundwater or drinking water itself and extended it  
12   to considering the potential for accumulation in  
13   people, drinkers or consumers of the water.

14          Q.   So -- I'm sorry.

15          MR. MCWILLIAMS: Are you finished?

16   QUESTIONS BY MR. FAZIO:

17          Q.   Sorry, I didn't mean to interrupt your  
18   answer.

19          A.   No, that's all right.

20          Q.   I wasn't sure if you were finished or --

21          A.   I was hoping to answer it. I hope you're  
22   getting an answer that's useful to you.

23          So those are the kinds of steps, right,  
24   that went into forming this con -- my own conceptual  
25   model.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Q. Okay. And so when you -- "conceptual  
2 model," I think you referred to it as a mental  
3 model. This is you sitting down and thinking  
4 through the problem of -- you know, if you were  
5 going to answer this question, if you were going to  
6 do the modeling yourself, sort of conceptually how  
7 you would go about doing it.

8 Is that a fair characterization?

9 A. How -- how I would go about doing it and  
10 my priors on what I would expect to find.

11 Yeah, I think that's -- that's really it.

12 And again, that's based on my own experience and  
13 training and education, having done modeling and  
14 measurements that -- that relate to this type of  
15 problem.

16 Q. Now, sir, so I -- so we're clear, you  
17 actually haven't -- you haven't done any modeling  
18 yourself in this case; is that correct?

19 A. That's right. That's right.

20 Q. Okay.

21 A. The types of modeling done here parallel  
22 the types of exposure and assessment activities that  
23 people in my field do and which I've done.

24 Q. And so you haven't -- so you haven't done  
25 any modeling specific to this case.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Have you gone out and taken any -- done  
2 any kind of sampling in this case, any water  
3 sampling, air sampling, blood sampling, of any kind?

4 A. No, I have not done any sampling for PFOA  
5 or related species in this matter.

6 Q. And, Doctor, just so I'm clear in my -- or  
7 it's clear to you in my questions, when I say "you,"  
8 I'm referring to you and EH&E as well.

9 So if somebody went out and did it on your  
10 behalf, obviously I'm -- I'd like you to respond --

11 A. I will. I understand. Thank you for  
12 clarifying that.

13 Q. Okay. So you described this mental model,  
14 conceptual model, process that you went through, and  
15 then you also said that you reviewed the literature  
16 produced by the investigators.

17 So tell me about that.

18 What literature did you review?

19 A. Well, that material --

20 MR. MCWILLIAMS: If it's all right, I'd  
21 like to give get him a copy of his entire report,  
22 not just --

23 MR. FAZIO: Oh, yeah, that's fine.

24 THE WITNESS: Okay. Thank you.

25 MR. FAZIO: That's fine.



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 THE WITNESS: Yeah. That literature is  
2 identified in the report.

3 MR. FAZIO: Okay. That's, I think,  
4 attachment -- at the end of your report.

5 MR. MCWILLIAMS: You want to make it an  
6 exhibit? I mean, I don't mean to interrupt --

7 MR. FAZIO: I'm going to. I'm going to.  
8 I just wasn't -- I'm kind of jumping kind of ahead.

9 MR. MCWILLIAMS: You might want -- just to  
10 make the record clean, you might want to go ahead  
11 and mark those -- the rest of his report.

12 MR. FAZIO: Yeah, that's fine.

13 MR. MCWILLIAMS: I'll take that back.

14 (MacIntosh Exhibits 3, 4, 5 and 6  
15 marked for identification.)

16 QUESTIONS BY MR. FAZIO:

17 Q. I think with the additional exhibits that  
18 you've just been handed, which are marked 3 through  
19 6, that's --

20 A. Right.

21 Q. Constitutes your complete report?

22 A. Yes.

23 Q. Okay.

24 MR. MCWILLIAMS: Are you missing a table,  
25 maybe?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 THE WITNESS: And then there's 4 and 5.

2 MR. FAZIO: Oh, sorry, sorry. Attachment

3 4.

4 THE WITNESS: Oh, wait, I have 4.

5 Wait a second. Sorry, my -- my mistake.

6 MR. MCWILLIAMS: You do?

7 THE WITNESS: 3, 4, 5 and 6 is right here.

8 MR. FAZIO: Sorry, we're missing -- yeah,  
9 I'm sorry. He was pointing out that we were missing  
10 attachment 4, so we need to mark that one as well.

11 THE WITNESS: Yeah, I got confused between  
12 the attachment numbers and the exhibit numbers.

13 But, yeah, we're good.

14 (MacIntosh Exhibit 7 marked for  
15 identification.)

16 QUESTIONS BY MR. FAZIO:

17 Q. All right. Doctor, so we're talking about  
18 the literature that you considered.

19 A. Uh-huh.

20 Q. And so you -- there was an attachment to  
21 your report entitled "Materials Relied on, Reviewed  
22 and/or Considered By Dr. David MacIntosh."

23 Do you have that in front of you?

24 A. Yes, I do. It's Exhibit 6.

25 MR. MCWILLIAMS: And I'm sorry, we're

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 still talking about his conceptual model? Is that  
2 correct?

3 MR. FAZIO: No, we talked about his  
4 conceptual model, and then he also said that he  
5 wouldn't -- he reviewed the literature produced by  
6 the investigators.

7 MR. MCWILLIAMS: So separate from the --

8 MR. FAZIO: Yeah.

9 MR. MCWILLIAMS: Okay.

10 QUESTIONS BY MR. FAZIO:

11 Q. So, Doctor, the materials that -- when you  
12 said that you had reviewed literature produced by  
13 the investigators, the literature that you reviewed  
14 is -- was listed on Exhibit 6?

15 A. It's listed on Exhibit 6 as well as in the  
16 main body of my report in the footnotes.

17 Q. Okay. So which particular documents or  
18 literature were you -- did you use in determining  
19 whether you thought Exhibit 2, Shin 2011, was  
20 reliable for your purposes in this case?

21 A. Well, I examined in -- let's see. I'm  
22 looking at Exhibit 6, page 1 of 4, and I'm looking  
23 at the -- let's see.

24 Sorry, I'm thinking about the depositions  
25 of James Cox and Donald Poole, but I'll have to come

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 back to those. I need to think about those a little  
2 more, recall those a little more.

3 But now I'm moving down into the section  
4 entitled "Literature," page 1.

5 So certainly the paper by Paustenbach; the  
6 Bartell; the next one, the Frisbee paper; the  
7 Steenland paper.

8 Yeah, the ATSCR document had some  
9 information on -- some of the information I  
10 considered on physical and chemical properties.

11 The Hoffman paper; the Seals paper.

12 Let's see. The top of page 2 where it  
13 says "Shin," that's the paper we've been talking  
14 about. However, there's the next one by Shin.  
15 That's the serum PFOA paper. That's how I think of  
16 it.

17 The next one by Shin, it's modeling the  
18 air soil transport pathways. Certainly that.

19 And I'd say more indirectly, but then  
20 the -- the Vieira paper assessing the spatial  
21 distribution.

22 Looking at that Bartell abstract, the  
23 impact of exposure uncertainty is helpful.

24 So it's not -- if it's in addition to that  
25 literature, you know, what I think -- here, your

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 question was about the literature from the C8  
2 science panel team of investigators, but I also  
3 looked at and considered for evaluating the  
4 reliability of their modeling work some of the  
5 reports listed in the Document section that begins  
6 on page 2.

7 Q. Okay. Which documents were those?

8 A. Primarily the second one on page 3. It's  
9 a 2008 data assessment report.

10 Q. Are those all of them?

11 A. The ones that are listed there.

12 Q. Okay.

13 A. And then, like I said, there are others in  
14 here, in the body of the report.

15 Actually, I believe that the documents  
16 that are in the body of the report also appear in  
17 here, some of them.

18 Q. Okay. You mentioned a moment ago the 2008  
19 data assessment report.

20 A. Uh-huh.

21 Q. How is it that you used that in coming to  
22 your opinions about the validity and reliability of  
23 the Shin modeling?

24 MR. MCWILLIAMS: Object to form.

25 THE WITNESS: The data assessment report

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 has some information on measured levels of PFOA in  
2 various media, including drinking water. And so I  
3 examined that information and found it to be  
4 generally consistent with the predicted values by  
5 Shin, et al.

6 QUESTIONS BY MR. FAZIO:

7 Q. Okay. Well, and that leads me to another  
8 question.

9 I mean, so did you -- to what extent did  
10 you -- well, strike that.

11 Did you compare the values that you  
12 estimated based on Shin Figure 2 to actual PFOA  
13 levels in water samples from these various water  
14 districts?

15 A. In a general way through -- by, one,  
16 examining the figure that we've been talking about  
17 in Shin, that Figure 2, and also by examining the  
18 range of the concentrations reported for some of the  
19 water districts in that 2008 data report to the  
20 predicted values in Shin.

21 Q. Okay. But did you conduct any sort of  
22 formal analysis on that?

23 A. I wouldn't -- I'm not sure what you mean  
24 by "formal analysis," but I confirmed for myself  
25 that these observed values were in the same range as

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 the predicted values.

2 Q. But you didn't go ahead and do any sort of  
3 statistical analysis to determine the difference  
4 between what was observed in that data and what you  
5 estimated based on Shin Figure 2?

6 A. Not in an explicit analysis of the data.  
7 By "explicit" I mean like a detailed statistical  
8 analysis, as you say.

9 No, I haven't done that.

10 Q. Okay. So that you compared them, but you  
11 compared them somewhat informally; is that fair to  
12 say?

13 MR. MCWILLIAMS: Object to form.

14 THE WITNESS: I did, but at the same time  
15 I reviewed the more formal evaluation of the  
16 predicted and observed values that appears in the  
17 Shin paper.

18 QUESTIONS BY MR. FAZIO:

19 Q. Okay. So we got -- we got on to this  
20 topic because I started asking you about if you had  
21 done anything to verify or validate Shin's modeling.

22 A. Okay.

23 Q. And you described to me you had reviewed  
24 the literature -- well, you started off by saying --  
25 describing a conceptual model that you had sort of

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 thought through yourself, and that you -- you then  
2 reviewed the literature. And you went through the  
3 literature that -- that you, in fact, reviewed, and  
4 you talked a little bit about the data.

5       Aside from the things we've discussed, was  
6 there anything else you did to verify or validate  
7 the modeling that was done by Shin?

8       A. Well, those are the -- those are the  
9 primary activities in their -- you know, in terms of  
10 like blocks of activity, and there are more specific  
11 activities within those.

12       Q. Okay.

13       A. So I think we're in a good spot.

14       Q. Okay. Well, tell me more specifically  
15 within the blocks, to use your term, what is it that  
16 you specifically did?

17       A. Well, let's see. In terms of the --  
18 relating the conceptual model to what I learned was  
19 done by the -- by the investigators and observed  
20 what was done, no, I -- I saw that their working  
21 incorporated all of the major elements that I would  
22 expect to see in an assessment of this type.

23       I saw that they encountered some of the  
24 same challenges that I would expect to -- to  
25 encounter if I were to undertake that activity.



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 I -- so I think that's -- that's maybe --  
2 it's a good way to describe the conceptual model  
3 part.

4 For the papers themselves and reviewing  
5 their work, you know, I looked to -- just to see if  
6 there was internal consistency among their -- their  
7 various pieces of work.

8 I looked to see if their results were  
9 generally what you would expect given the  
10 observations of the serum PFOA, PFOA concentrations  
11 that had been measured in people and in the drinking  
12 water.

13 I looked, examined, the extent to which  
14 they addressed the completeness, or gaps in  
15 information that they might need to perform these  
16 analyses, you know, how they addressed the -- any  
17 uncertainty and how they kind of, again,  
18 cross-checked their own work.

19 And I found that their work conformed with  
20 the -- the normal practices in my profession.

21 Q. Doctor, a minute ago you -- in talking  
22 about the conceptual model, you used the word  
23 "challenges" in the modeling.

24 What did you mean by "challenges"?

25 A. Well, there are always challenges in any

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 exposure assessment, whether it's measurement-based  
2 or modeling-based. And a lot of it has to do with  
3 the availability of information that -- that in an  
4 ideal world, which never exists, but, you know,  
5 would be available to -- to an assessor.

6 So, you know, this is a historical  
7 exposure reconstruction, and so there's a need to  
8 gather information over time. But a tremendous  
9 amount of effort was put into that. That's very  
10 clear from the published works.

11 There's a need for information on the  
12 properties of the chemical itself. For some  
13 chemicals that's not so much of a challenge; for  
14 others it can be more of a challenge. I think PFOA  
15 is in that latter group.

16 They had -- certainly had computational  
17 challenges because they had -- I mean the modeling,  
18 transport and fate, over five -- approximately five  
19 decades on an annual basis, and they're linking all  
20 these models, as you so correctly pointed out  
21 earlier this morning. And there are, you know, run  
22 time issues, there's capacity on your servers or  
23 other computer kind of issues to deal with.

24 There's data processing to manage the  
25 information, output from one model and get it

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 conformed -- in the right format to be an input to  
2 the next model.

3 Those are some of the challenges.

4 Q. So, Doctor, in your evaluation of the  
5 modeling that -- that Shin and his colleagues  
6 undertook, were there any specific instances where  
7 you would have either used a different assumption or  
8 taken a different approach than Shin and his  
9 colleagues?

10 A. Not that I know of. Not that I can  
11 identify right now. You know, but at the same time,  
12 I wasn't doing the work in conjunction with them, so  
13 I couldn't -- I couldn't be certain about any  
14 specific challenges that they were facing at any  
15 certain time.

16 Q. So, Doctor, I want to make sure I fully  
17 understand this.

18 So we've been talking about things that  
19 you've done to verify or validate the modeling done  
20 by Shin and his colleagues. And we talked about the  
21 literature review, and you talked about your  
22 conceptual model, and we talked a little bit about  
23 some of the challenges of doing this kind of  
24 modeling.

25 And thus far, it sounds like all of your

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 evaluation of Shin's work was -- was qualitative.

2 Is that a fair statement?

3 MR. MCWILLIAMS: Object to form.

4 QUESTIONS BY MR. FAZIO:

5 Q. Well, let me -- actually, let me withdraw  
6 that. Let me ask you a different question.

7 Did you do any sort of quantitative  
8 analysis to determine the accuracy of the Shin  
9 model?

10 A. Well, I did -- let me think about that for  
11 a second.

12 You know, every analysis that I do is  
13 likely to have some quantitative aspect to it. It's  
14 just a question of degree, you know, how -- how  
15 extensive the quantitative analysis is.

16 So I'm going to say, for example, here in  
17 the Shin work, you know, one of the things that they  
18 do is compare the predicted average annual  
19 concentration for a water district to the  
20 corresponding observed. And that's a process that  
21 they use to evaluate the model performance and to  
22 calibrate the model.

23 So I examined what they did, right? Their  
24 procedure. I looked at their tables. I considered  
25 the -- the -- their calibration factors and their

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 approach in a quantitative way.

2 I find that -- you know, I observed that  
3 their -- they are reporting that their observed  
4 concentrations are -- I'm sorry, their predicted  
5 concentrations are on average within a factor of 2  
6 across the individual water districts of the  
7 observed.

8 So I would say that's a quantitative  
9 analysis. I wouldn't say it's an in-depth  
10 quantitative analysis, but it's certainly  
11 quantitative.

12 So as I said, it's really a matter of  
13 degree.

14 Q. Doctor, you mentioned a -- a minute ago  
15 that one of the challenges was the pro -- the  
16 property of the chemical itself in doing this  
17 modeling.

18 Do you recall that?

19 A. Yes.

20 Q. Okay. So tell me, why are the properties  
21 of the chemical itself a challenge in the modeling?

22 A. Well, from what -- from what I have  
23 learned about PFOA is that -- let me back up a  
24 second.

25 Some -- there are -- in this type of

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 exposure analysis, it's common to require  
2 information on certain properties of the chemical  
3 that influence how it moves through the environment.  
4 Those are given -- there are many different terms  
5 that are applied to those -- those properties, and  
6 many of them relate to the affinity that a chemical  
7 will have for a certain type of material and the  
8 converse, you know, its potential to move from that  
9 same type of material.

10 And for many chemicals, those properties  
11 are fairly well characterized. Things like the  
12 octanol-water partition coefficient or the Henry's  
13 law constant or the octanol carbon -- or the organic  
14 carbon water coefficient.

15 And from what I've learned looking into  
16 PFOA is that some of those -- those properties for  
17 that chemical are less well understood in comparison  
18 to many other chemicals. So that's a challenge.

19 Q. In terms of the challenges associated with  
20 the chemical properties of PFOA, were any of those  
21 issues, in your view, material -- strike that.

22 With respect to the chemical properties of  
23 PFOA in the modeling work that Shin did, were there  
24 any chemical properties that were used in Shin  
25 that -- were there any instances in which you would

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 have used a different value for that property?

2 A. I can't say for sure because I didn't do  
3 the work myself, you know, either with them or in  
4 parallel. So I -- I can't really say for sure --

5 Q. Just don't have --

6 A. -- as I sit here, no.

7 Q. I'm sorry. You just don't have an opinion  
8 on that?

9 A. I think the ones that they used were  
10 reasonable. They talk about them, and they  
11 certainly thought about it. And I think their  
12 ultimate reasoning is transparent and understandable  
13 and reasonable.

14 I mean, in my mind, the proof is kind of  
15 in the pudding in that the predicted values for the  
16 groundwater agree well with the observed, and the  
17 same is true for the serum PFOA concentrations.

18 Q. Well, Doctor, let's -- in terms of the  
19 agreement with the observed values as it relates to  
20 Shin Figure 2, the observed values primarily -- that  
21 were used primarily were observed after 2000; is  
22 that correct?

23 A. Yes, that's right. Yeah.

24 Q. Okay. I think -- or in the paper itself  
25 it describes there were some from, I think, 1998 on,

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 but they primarily were from 2000 on; is that right?

2 A. Right. I think primarily 2000 through  
3 2007.

4 Q. Okay. And yet the Shin model actually  
5 goes back to as far as 1950; isn't that correct?

6 A. It does.

7 Q. Okay. And so when they calibrated -- when  
8 Shin calibrated the model, they calibrated it  
9 primarily against observed values from 2000 to  
10 approximately 2010; is that right?

11 A. Right.

12 Q. Okay. Are you aware of any samples taken  
13 from the public water supply from Tupper Plains  
14 that were analyzed for PFOA content prior to 1997?

15 A. There may be some, but I'm not -- I'm not  
16 aware of them. And if they are, they might be in  
17 the -- I would expect them to be in the group of  
18 measurements that are -- for which the accuracy is  
19 dubious, because I think the analytical chemistry  
20 methods were being still developed at that time.

21 Q. In forming your opinions about class --  
22 actually, you know what? We've been going for about  
23 an hour.

24 Do you want to take a break, or are you  
25 good to go for a little bit longer?



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1       A. Let's take just a quick break. Just  
2 short.

3       VIDEOGRAPHER: Off the record.

4       (Off the record at 10:08 a.m.)

5       VIDEOGRAPHER: The time is 10:19 a.m. We  
6 are back on the record.

7       QUESTIONS BY MR. FAZIO:

8       Q. Doctor, just before the break we had been  
9 talking a little bit about challenges in modeling of  
10 the type that Shin and his colleagues undertook, and  
11 you said to me that one of the challenges was data  
12 over time and then we discussed the property, the  
13 physical properties, of the chemical itself and the  
14 computational challenges.

15       Were there any other challenges in this  
16 kind of modeling that you identified in the course  
17 of your work on this case?

18       A. Well, I may have, but those are the ones  
19 that come to mind right now, and despite those  
20 challenges, it's -- you know, their modeling results  
21 agreed well with the observations that were  
22 available.

23       Q. And so you say they "agreed well."

24       I think earlier you indicated that the  
25 predicted values that Shin and his colleagues

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 observed were within about a factor of 2 of the  
2 observed results.

3 Is that correct?

4 A. On average they were within a factor of 2.

5 That's what's reported in their work, uh-huh.

6 That's for the concentrations of the PFOA on an  
7 annual basis in the drinking water of the different  
8 districts, the seven districts.

9 Q. Did you do anything to analyze --  
10 actually, strike that. You've already answered that  
11 question.

12 Your comparison -- you compared the annual  
13 average values that you extracted from Shin Figure 2  
14 to some of the sampling data.

15 I think you mentioned the data from the  
16 MOU in 2008; is that correct?

17 A. I don't know if that was the MOU in 2008,  
18 but that data -- what's it called? -- the data  
19 assessment report from 2008.

20 Q. Okay.

21 A. Yeah.

22 Q. Did you compare the results that you  
23 extracted from Shin Figure 2 to any other data sets?

24 A. Well, it's either some information  
25 presented -- after my report I compared it to

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 information that appeared in a report of a

2 Mr. Washburn.

3 Q. Okay.

4 A. Because he has a couple of tables that  
5 were in there.

6 Q. And that was after you completed your  
7 report?

8 A. Yeah.

9 Q. Okay.

10 A. I received that after I completed my  
11 report.

12 Q. Okay. Prior to completing your report,  
13 though, were there any other data sets that you --  
14 where you compared the results on your attachment 4  
15 to any other sets of data that reflect observed  
16 concentrations of PFOA in water for either Tupper  
17 Plains or -- we'll refer to it as New Lubeck.

18 A. Uh-huh. Uh-huh.

19 I'm trying to recall if I did or not. You  
20 know, if other measurement data appear in the -- in  
21 the literature that I reviewed and considered and  
22 rely upon and I certainly made that comparison to, I  
23 just don't recall right now.

24 Q. So just to close -- close the loop on  
25 this, have you told me now everything you did to

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 verify or validate the modeling work done by Shin  
2 and his colleagues that underlies Figure 2?

3 A. No.

4 Q. Okay. Tell me, what else did you do?

5 A. Well, I drilled down, so to speak, you  
6 know, looked in more detail at their work.

7 For example, as I mentioned, I did -- you  
8 know, I examined other parts of their work that  
9 relate to the reliability of the groundwater model  
10 predictions.

11 So starting at kind of the end, maybe it  
12 would be -- say, left to right, it would be, you  
13 know, the end of the sequence of events or  
14 processes, you know, we could look at the serum PFOA  
15 concentrations that are estimated and provided in  
16 another paper that Shin was the first coauthor of --  
17 or first author of.

18 And that's relevant because the drinking  
19 water intake of PFOA is one of the primary or one of  
20 the important routes of exposure for -- for this  
21 community.

22 And so for the -- in the serum -- the  
23 predicted serum PFOA concentrations agreed well with  
24 the observed serum PFOA concentrations that were  
25 collected in 2005 and '6 by the C8 -- as part of the

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 C8 health study.

2 And "agreed well," what I mean is the  
3 correlation coefficient between the predicted and  
4 observed was moderate to strong. In the range of .6  
5 to .7 as a correlation coefficient, it's good when  
6 you're comparing predicted values to observed values  
7 for individual people, which is what they were  
8 doing.

9 It also -- I think it was about 60 percent  
10 or so of all their predicted serum concentrations  
11 were within a factor of 2 of the corresponding  
12 observed predictions. That's also very good  
13 agreement. And I know that based on similar work of  
14 my own that I've done, although it wasn't PFOA  
15 related.

16 And another reason that that serum  
17 information that's -- the concordance of the  
18 predicted and observed serum information is relevant  
19 is that it's related to the persistence of PFOA in  
20 the body.

21 So that persistence is described in this  
22 literature as a half-life of PFOA in the body. And  
23 there are a range of estimates generally between a  
24 little more than two years to about three and a half  
25 years for that -- that half-life.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1           And so what that means is that it -- with  
2   a half-life of, say, three years, as an example, you  
3   know, it takes -- it would take about a decade or so  
4   for all of the PFOA in a person's body at a given  
5   time to be cleared from that body.

6           So that means that the values -- the serum  
7   PFOA predicted at a given point in time are  
8   dependent upon the serum PFOA predicted in the prior  
9   year and the year before that and the year before  
10   that and the year before that.

11          So in other words, to get it right in a  
12   given year means that you -- you have to get it  
13   right in the prior years, too.

14          So when I see that they're in agreement in  
15   the predicted serum PFOA, observed serum PFOA, is  
16   quite good based on these 2005 measurements. That  
17   tells me that the prior years must have been  
18   reasonable, too, and on target. So that's one.

19          Another is if you start at kind of the  
20   other end of the chain, like the emissions. So to  
21   get the -- the serum PFOA right and the  
22   groundwater -- and the drinking water PFOA right,  
23   you -- you almost certainly need to have the  
24   emissions be reasonable estimates, too.

25          In the period when the drinking water

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 concentrations predicted by Shin, et al., were  
2 compared to the observed drinking water  
3 concentrations, again, is approximately 2000, 2007.  
4 So if you look at the emission rates that Shin, et  
5 al., used, they had two primary sources; one was  
6 data that -- on emissions that had been gathered and  
7 assessed by Paustenbach, et al., and are described  
8 in their paper. And Paustenbach, et al., estimated  
9 emissions from, I think it was, 1951 through 2003,  
10 so into the period when this evaluation of agreement  
11 with observed was performed.

12 The second source was some more recent  
13 information on emissions that were cited as coming  
14 from DuPont, and that was for 2004 and '5, I think,  
15 maybe '6, too.

16 So why this is relevant in my mind is that  
17 when we see reasonable concordance between observed  
18 and predicted drinking water concentrations in 2000,  
19 2007, we know that those predictions are, in part,  
20 based on emission rates that -- and I see that those  
21 emission -- the source of those emission rate  
22 estimates is the same in the -- or included in the  
23 2000 through 2007 period as was used for the prior  
24 years. That makes me think, too, that the prior  
25 years are probably reasonable for the prior years of

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 estimated PFOA in drinking water are reasonable.

2 And there's another paper that Shin was  
3 also the first author on. It appeared in  
4 Atmospheric Environment, and in that paper they were  
5 focused on the air modeling.

6 And what they were doing was, you know,  
7 with the air modeling, they -- they have the  
8 emissions that go into the model, and then you have  
9 the movement of the PFOA in the atmosphere carried  
10 by the wind and scavenged out of the atmosphere by  
11 rain and falling to the ground. That's called dry  
12 deposition. And anyhow -- but, you know, the PFOA  
13 lands on the surface soil.

14 And then as we talked about earlier this  
15 morning, some of that PFOA can percolate down  
16 through the surface soil into the underlying soil,  
17 that vadose zone.

18 So what they did in this paper published  
19 in Atmospheric Environment was compared the  
20 predicted accumulation of PFOA in soil, surface  
21 soil, to the observed -- to observed data also from  
22 that 2000, 2007-ish time period, I think it was, and  
23 they compared the predicted subsurface PFOA  
24 concentrations in soil to the observed data, too.  
25 And those -- there was good agreement there as well.



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1           So that lets a reviewer like myself  
2   understand that intermediate components of their  
3   linked models were reasonable, as well as the kind  
4   of outcome, we could call it, right, the end point  
5   drinking water concentrations in the serum PFOA, and  
6   to link that to this evaluation period for the  
7   drinking water concentrations when there are, you  
8   know, observations available to the prior period is  
9   this.

10          So in Exhibit 2 -- you know, I think it's  
11   Exhibit 2 -- they talk about transport time, so time  
12   for PFOA to move through this environmental system  
13   that they're simulating. And they say that one of  
14   the -- the phases in the transport sequence that's  
15   the longest is this period in the vadose zone, or  
16   moving from the surface soil to the subsurface and  
17   into the aquifer. And they said based on the inputs  
18   that they have in the model, that time would be  
19   about 11 years.

20          So that says that predicted drinking water  
21   concentrations in a given year are, in part,  
22   dependent upon the predicted accumulation in soil  
23   over the prior decade or so.

24          And because these models are linked in  
25   time, where they would run one model per year, the

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 first model for the year, take the output, put it  
2 into the second model, right, and then run the first  
3 model again for the next year and put that output  
4 into the second model. So all these models are  
5 linked in time.

6 So it would be very -- I would be very  
7 surprised if they got reasonable and what I consider  
8 to be reliable modeling results in the 2000, 2007  
9 period and also to have incorrect or unreliable  
10 results earlier. I just don't see that making  
11 sense.

12 Q. So, Doctor, you mentioned a few minutes  
13 ago in your answer that you -- you made some  
14 reference to serum PFOA -- or serum PFOA levels --

15 A. Uh-huh.

16 Q. -- so levels of PFOA in blood.

17 Do you recall that?

18 A. Yes.

19 Q. Okay. Now, in your work on this case,  
20 isn't it true that the criteria for class membership  
21 really has nothing to do with the levels of PFOA in  
22 a person's blood?

23 Is that accurate?

24 MR. MCWILLIAMS: Object to form.

25 THE WITNESS: Yeah, I'm looking at the

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 criteria for class membership on page 3 of my  
2 report, and it makes no mention of levels of PFOA in  
3 the body of a person.

4 QUESTIONS BY MR. FAZIO:

5 Q. Okay. And in your report, can -- is there  
6 any place in this report where you have ever  
7 discussed serum PFOA levels for any member of the  
8 class?

9 A. I wouldn't think so, but it's certainly  
10 among the information that I reviewed and  
11 considered.

12 Q. Okay. You haven't expressed any opinions  
13 about that in your report?

14 MR. MCWILLIAMS: Object to form.

15 QUESTIONS BY MR. FAZIO:

16 Q. Isn't that correct?

17 MR. MCWILLIAMS: About what?

18 MR. FAZIO: About PFOA levels in blood for  
19 any member of the class.

20 THE WITNESS: I --

21 MR. MCWILLIAMS: Same objection. It  
22 doesn't make any sense.

23 THE WITNESS: If you're asking me did I  
24 make mention of measured serum PFOA for either  
25 Ms. Bartlett or Mr. Wolf, no, I don't think I did.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 We can go back here and check.

2 I did mention briefly the half-life in  
3 people on page 3 and 4 --

4 MR. MCWILLIAMS: Are we talking about the  
5 body of his report or materials considered?

6 MR. FAZIO: The body of his report.

7 MR. MCWILLIAMS: And only the body of his  
8 report?

9 MR. FAZIO: Yeah.

10 MR. MCWILLIAMS: Okay.

11 QUESTIONS BY MR. FAZIO:

12 Q. Doctor, so was there a reason that you  
13 extracted data from Shin Figure 2 rather than simply  
14 using the results of water sampling in the districts  
15 in forming your opinions about Ms. Bartlett or  
16 Mr. Wolf's membership in the class?

17 A. Well, I wanted to have a consistent source  
18 of information for each of the years that I was  
19 evaluating, and these predicted concentrations that  
20 appear in this Shin paper are a source of that  
21 information. Where the measured values are not  
22 available -- there are no measured values that I'm  
23 aware of that are available prior to about 2000.

24 But that's not uncommon. That's what  
25 models are used for. Models are most useful --

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 well, models can be useful in many ways, and one of  
2 the ways that they're -- situations in which they're  
3 absolutely necessary is when you want to understand  
4 what conditions may be like in the future. So, of  
5 course, there's no possibility of measurements for  
6 time that hasn't occurred yet.

7 And then models can also be quite useful  
8 for time periods in the past where you don't have  
9 measurements. That's a common use of models.

10 Q. Doctor, your report talks only about  
11 exposures that Mr. -- or Ms. Bartlett and Mr. Wolf  
12 may have had from drinking water.

13 Have you done anything to quantify  
14 Ms. Bartlett or Mr. Wolf's potential exposure from  
15 any other source of PFOA at the time you created --  
16 you created your report or completed your report?

17 A. I looked at the -- I reviewed the air  
18 modeling done by the C8 investigator group as well  
19 as the analogous work that was done by Paustenbach,  
20 et al., and I overlaid at the locations of  
21 Ms. Bartlett and Mr. Wolf with the modeling, the air  
22 modeling, domains indicated by -- in the Shin, et  
23 al., body of work.

24 And it appeared to me that Mr. Wolf would  
25 be in an area that -- it looks like he's in an area

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 where the modeling was done, but it wasn't -- I  
2 didn't do anything more than that because my focus  
3 was on determining whether or not Ms. Wolf --  
4 Ms. Bartlett and Mr. Wolf met the class criteria.

5 Q. So the extent -- the extent to which you  
6 considered potential air exposure was just simply  
7 overlaying or plotting where Ms. Bartlett and  
8 Mr. Wolf would have been against the air modeling  
9 domain; is that correct?

10 MR. MCWILLIAMS: Object to form.

11 THE WITNESS: I think I did that. I just  
12 wanted to, you know, deepen my knowledge.

13 QUESTIONS BY MR. FAZIO:

14 Q. So you didn't do anything else with  
15 respect to potential air exposure; is that correct?

16 A. Not that I recall.

17 Q. Okay. What about any other kind of  
18 exposure?

19 A. No, I didn't -- I did not consider any  
20 other route or pathway of exposure quantitatively  
21 or really qualitatively either, although I  
22 recognized that those -- those may, and probably  
23 did, exist.

24 Q. Now, I didn't see anything in your report  
25 about this, but I want to be clear about it.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 I take it you're not going to be offering  
2 any opinions at trial concerning the alleged health  
3 consequences of exposure to PFOA?

4 A. I think that would be unlikely.

5 Q. Okay. So is that unlikely or no?

6 MR. MCWILLIAMS: Object to form. Asked  
7 and answered.

8 THE WITNESS: Well, I'll answer questions  
9 that are asked of me. It's certainly not a question  
10 that's been asked of me at this time.

11 QUESTIONS BY MR. FAZIO:

12 Q. Okay. All right. Let's take a look at  
13 attachment 4 to your report, which is the table.

14 A. Oh, all right. Okay.

15 Q. All right. So attachment 4 is, I think  
16 we've discussed, is -- these are the values that you  
17 extracted from Shin Figure 2 using the Engauge  
18 Digitizer; is that correct?

19 A. That's right.

20 Q. And in the left-hand column there are  
21 values for Ms. Bartlett, and in the right-hand  
22 column there are values for Mr. Wolf, right?

23 A. Correct.

24 Q. For Mr. Bartlett -- or, I'm sorry,  
25 Ms. Bartlett, the analysis begins in 1983?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Yes.

2 Q. What was the significance of 1983?

3 A. 1983, I have to think back about it, but I  
4 think that's the year -- the first year that I could  
5 identify when -- and verify that she was occupying a  
6 residence that was receiving public water.

7 Q. Okay. And so you've not done anything to  
8 quantify any alleged exposure to PFOA for  
9 Ms. Bartlett prior to 1983?

10 MR. MCWILLIAMS: Object to form.  
11 Misstates evidence.

12 THE WITNESS: Could you repeat the  
13 question, please?

14 QUESTIONS BY MR. FAZIO:

15 Q. I asked: Have you done anything to  
16 quantify any alleged exposure for Ms. Bartlett to  
17 PFOA in drinking water prior to 1983?

18 MR. MCWILLIAMS: Same objection.

19 You don't understand this table.

20 THE WITNESS: Well, I guess in a sense I  
21 did, and I -- I asked the question for myself to  
22 answer, you know, was her -- did I see any evidence  
23 that she was a consumer of public water prior to  
24 1983, and I did not see that.

25



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 QUESTIONS BY MR. FAZIO:

2 Q. Prior to 1983, what was the source of  
3 Ms. Bartlett's drinking water, if you know?

4 A. I think that -- I've been thinking about  
5 what I've learned here, and I believe that prior to  
6 '83 she -- she lived with her parents in the home  
7 where she grew up as a child, and they were  
8 receiving water from a spring or well.

9 Q. Did you have any information concerning  
10 any potential PFOA exposure via her drinking water  
11 prior to 1983?

12 A. No, I don't have any information on that.

13 Q. All right. And so Mr. Wolf, your analysis  
14 begins in 1999.

15 I take it that's the first year you could  
16 establish that he was in any water district where he  
17 would have been exposed to PFOA?

18 A. Yes, that's correct.

19 Q. Okay. And then both -- for both  
20 Ms. Bartlett and Mr. Wolf, your analysis ends in  
21 2005.

22 Why did you choose to end the analysis in  
23 2005?

24 A. I chose to end the analysis there for a  
25 couple of reasons. One was that the -- that was the

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 end of the time period reported in this Shin paper  
2 in Environmental Science and Technology that we've  
3 been discussing, and the other is that it's my  
4 understanding that shortly after 2005, systems were  
5 put in place in these public water districts to  
6 remove or otherwise lower the concentrations of PFOA  
7 in the drinking water.

8 Q. Okay. And at that point, any exposure to  
9 PFOA by drinking water would have ceased; is that  
10 true?

11 A. I don't know that it absolutely ceased.  
12 I've looked a little bit at some of that data  
13 because there's been measurements since that time,  
14 but certainly in general the concentrations were  
15 lowered substantially and in most cases nondetect.

16 Q. And so attachment 4, these are estimated  
17 annual average PFOA concentrations in the Tupper  
18 Plains and Lubeck water supplies based on the  
19 modeling done by Shin.

20 As a practical matter, on any given day or  
21 week, the amount of PFOA in the water could have  
22 been below these annual averages, correct?

23 MR. MCWILLIAMS: Object to form.

24 THE WITNESS: I suppose that it could be,  
25 but if it was below, then it would -- on one day it

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 would necessarily have to be above on another time  
2 for that average to work out.

3 QUESTIONS BY MR. FAZIO:

4 Q. Okay. And you can't say what the actual  
5 concentration of PFOA was for any of the times that  
6 either Ms. Bartlett or Mr. Wolf actually was  
7 drinking the water; is that accurate?

8 MR. MCWILLIAMS: Object to form.

9 THE WITNESS: Well, it wasn't necessarily  
10 in the scope of my work.

11 My work was to understand whether or not  
12 they met the criteria for inclusion in the class.

13 QUESTIONS BY MR. FAZIO:

14 Q. And you're not claiming that at the PFOA  
15 levels estimated on attachment 4 that DuPont should  
16 have known that PFOA would harm anyone, are you?

17 MR. MCWILLIAMS: Object to form.

18 THE WITNESS: I don't have an opinion at  
19 this time on knowledge or harm, no.

20 QUESTIONS BY MR. FAZIO:

21 Q. Doctor, let's go back to Exhibit 1.

22 In footnote 41 --

23 A. Okay.

24 Q. -- which is on page 7, you describe a  
25 personal communication with Mrs. Bartlett.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Do you see that?

2 A. I'm sorry.

3 Q. Are you okay?

4 A. Yeah. I noticed that some of my breakfast  
5 appeared on my shirt.

6 Cover that up.

7 Q. Sorry, Doctor.

8 All right. So footnote 41, page --  
9 page 7, you describe a personal communication with  
10 Ms. Bartlett.

11 Do you see that?

12 A. I do.

13 Q. Okay. Was that the only time you've  
14 spoken with Ms. Bartlett prior to issuing your  
15 report?

16 A. No. There was a second time. I believe  
17 that's -- yeah, look at footnote 28.

18 Q. Oh, okay I see.

19 So there were two times: December 8,  
20 2014, and November 10, 2014. Those were the two  
21 times you had communications with her prior to  
22 issuing your report?

23 A. I'm sorry, could you repeat the dates that  
24 you just posed in the question?

25 Q. So in footnote 28 you say December 8,

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 2014, and then on footnote 41 you're saying

2 November 10, 2014.

3 A. That's correct.

4 Q. Okay. So those were the two times that  
5 you recall speaking with her prior to issuing your  
6 report?

7 A. Yes.

8 Q. Okay. So tell me what was -- let's start  
9 with the November 10, 2014 conversation.

10 Can you tell me, what was discussed in  
11 that conversation?

12 A. Yes.

13 So the content of the discussion is  
14 described there in the second paragraph on page 7.  
15 So we talked about -- I asked her questions about  
16 where she lived along US 50 East and the nature of  
17 her housing situation and the -- what she understood  
18 to be the source of the water that was, you know, in  
19 her house that she -- in the tap of her house.

20 Q. Okay. Anything else you discussed during  
21 that call?

22 A. Not that I recall.

23 Q. And why was it necessary for you to talk  
24 to Ms. Bartlett about the -- the issues you just  
25 described?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1       A. Uh-huh. Well, there's the period of time  
2       where she lived on this US 50 East address and --  
3       but for which I didn't have any veri -- evidence, if  
4       you will, of her use of water, public water, and I  
5       wanted to understand that better. And that's why I  
6       talked to her.

7       Q. Okay.

8       A. And what I learned is what it says in the  
9       report here, is that she and her husband lived in a  
10      trailer, as she calls it, on property owned by a  
11      Mr. and Mrs. Depoy, and that the water -- indeed,  
12      the trailer that she resided in received water, it  
13      had flowing water in it, and that that water came  
14      from the Depoys' water meter, which, in turn, was  
15      connected to the Tupper Plains Public Water  
16      District.

17      Q. Did you take any notes from that call?

18      A. No, I don't have any notes. I just  
19      incorporated them right into the report as I was  
20      writing it.

21      Q. All right. So the -- do you recall any --  
22      well, before we move on.

23             So do you recall anything else from the  
24      November 10, 2014 conversation you haven't told me  
25      about already?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. I don't.

2 Q. So let's talk about the December 8, 2014  
3 conversation.

4 What was the --

5 A. Okay.

6 Q. What was the nature of that conversation?

7 A. Sure.

8 I'm just going to look at the sentence  
9 that goes with that footnote.

10 Right. Okay. Refreshes my memory.

11 So there was a similar situation as to  
12 what I just described when Ms. Bartlett lived along  
13 US 50, but different time period, different  
14 location.

15 So the time period is earlier now, it's in  
16 the '80s, and she lived along Lottridge Road. So  
17 she had described in previous testimony, maybe in  
18 the, like, deposition or plaintiff fact sheet or  
19 elsewhere, that she lived at 2540 Lottridge Road  
20 with her parents in a home, and she lived in that  
21 home up through, I think it was, 1986.

22 And at some point in '86, she no longer  
23 resided in the home with her parents but instead  
24 moved into a trailer that was on the property owned  
25 by her parents. So adjacent to her parents' home

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 where she was living previously.

2 So I wanted to understand what the source  
3 of water was when she lived in that trailer because  
4 there were no -- I could not find any records from  
5 the Tuppers Plains Water District that showed an  
6 account in her name for that '86 to '89 time period.

7 Q. Okay. Anything -- I'm sorry, were you  
8 done?

9 A. Not quite.

10 Q. Okay.

11 A. So I -- I asked her about that. I wanted  
12 to understand that better.

13 Q. Okay.

14 A. And what she told me was that the trailer  
15 that she lived in did have flowing public water that  
16 was connected to a water meter that was under a  
17 different account.

18 Q. Okay. Anything else from that  
19 conversation that you recall?

20 A. I asked her about the possibility of  
21 receiving information about -- let's see.

22 I asked her if she thought it was possible  
23 for us to get records from the Tuppers  
24 Plains-Chester Water District on the accounts  
25 that -- that she -- her trailer may have been



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 connected to, and she thought that was not very  
2 probable.

3 Q. Okay.

4 A. That was the only other thing we  
5 discussed.

6 Q. Okay. Did you take any notes during that  
7 conversation?

8 A. No, I didn't -- I did not take any notes.

9 Q. Aside from those two communications, did  
10 you have any other communications with Mrs. Bartlett  
11 prior to issuing your report?

12 A. Not that I'm aware of. Not that I recall.

13 Q. Did you have any communications with  
14 Mr. Bartlett prior to issuing your report?

15 A. No.

16 Q. Okay. And aside from any communications  
17 you might have had with the attorneys, did you have  
18 any communications with anyone else relating to  
19 Mrs. Bartlett's case that are not disclosed in your  
20 report?

21 A. Let's see. My colleagues at EH&E, but I  
22 can't think of anyone else.

23 Q. All right. So footnote 64, you describe  
24 a -- a communication with Mr. Wolf on November 25,  
25 2014.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Yes.

2 Q. Okay. Tell me about that communication.

3 What was the purpose of speaking to

4 Mr. Wolf on -- in November of 2014?

5 A. Uh-huh.

6 So the purpose of my communication with

7 Mr. Wolf on that day was for me to gather additional

8 information about his residential history. And I

9 wanted to do that because there was -- I felt there

10 was some ambiguity in the information I had, and I

11 wanted to clarify that, resolve that ambiguity,

12 which I was able to do.

13 Q. Okay. So tell me, what was the ambiguity

14 you were trying to clarify?

15 A. You know, it turns out that some of

16 these -- these parcels in that area, this Wildwood

17 Avenue or Wildwood Drive area in Parkersburg, that

18 they have two addresses.

19 And in his deposition or plaintiff fact

20 sheet, there was some kind of back and forth between

21 a couple of addresses for the -- for a given time

22 period. And I -- and I wanted to understand whether

23 he lived in two different places at a given time

24 period or one. And so I was able to clarify that.

25 And it turned out it was one, and it just

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 has to -- these -- these parcels were reidentified  
2 as the -- with addresses as the neighborhood seemed  
3 to evolve over time.

4 So more specifically, he made mention to  
5 getting 911 -- right, 911, I think -- related  
6 reasons for renumbering these parcels in terms of  
7 street number and road name.

8 Q. So ultimately he was in the same location;  
9 it just was -- the address actually changed.

10 Is that what you're saying?

11 A. Yeah, the address changed.

12 And if you look into the parcel records,  
13 you can actually find both addresses. And so I was  
14 able to verify that through the public records.

15 Q. Okay. What else do you recall from your  
16 conversation with Mr. Wolf in November of 2014?

17 A. Oh, I asked him then -- and actually this  
18 holds for Ms. Bartlett, too. So go back to the  
19 prior question you asked me about her, was there  
20 anything else we discussed.

21 I asked him about his use of the drinking  
22 water in his home. I said -- I asked him if -- if  
23 he consumed that water. I asked him if it was his  
24 primary source of water, his most -- the source he  
25 drew upon most frequently. And he said, yes.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1           And I -- in one of the prior conversations  
2       with Ms. Bartlett, I asked her the same thing, and  
3       she said yes as well.

4           Q.   Okay. Anything else from your  
5       November 2014 conversation with Mr. Wolf?

6           A.   Not that I recall.

7           Q.   Have you ever had any other -- did you  
8       have any other communications with Mr. Wolf prior to  
9       issuing your report in December of 2014?

10          A.   No.

11          Q.   And I apologize if I asked you this  
12       already.

13               Were there any notes from your  
14       conversation with Mr. Wolf?

15          A.   No, I don't have any. I incorporated them  
16       into the report as well.

17          Q.   Did anybody else participate in the  
18       conversation, in your conversation with Mr. Wolf?

19          A.   Not that I remember, no.

20          Q.   Okay. And going back to the conversations  
21       you had with Ms. Bartlett, did anybody else  
22       participate in those conversations?

23          A.   I think one of my colleagues was on those  
24       calls and perhaps one of the attorneys, too.

25          Q.   Okay. Which colleague would have been on

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 the calls?

2 A. Same one I mentioned before, Taeko

3 Minegishi.

4 Q. All right, Doctor. Today we were provided  
5 with a -- some additional documents in response to  
6 our -- to the notice of deposition.

7 A. Okay.

8 Q. I want to go through these --

9 A. All right.

10 (MacIntosh Exhibit 8 marked for  
11 identification.)

12 QUESTIONS BY MR. FAZIO:

13 Q. -- briefly with you.

14 Doctor, you were handed what's been  
15 marked, I think, as Exhibit 8 to the deposition.

16 And this appears to be --

17 Well, can you identify this for me?

18 A. Yes.

19 This is a retention agreement between my  
20 firm and our client.

21 Q. Okay. And I note that the letter itself  
22 is dated August 15, 2013, and it was signed -- is  
23 that your signature --

24 A. That is.

25 Q. -- on the second page?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Yes.

2 Q. Okay. And you signed this on October 30,  
3 2013?

4 A. Yes.

5 Q. Okay. Did you do any work prior to  
6 October 30, 2013?

7 A. No. Not that I recall.

8 (MacIntosh Exhibit 9 marked for  
9 identification.)

10 QUESTIONS BY MR. FAZIO:

11 Q. Doctor, you've been handed what's been  
12 marked as Exhibit 9.

13 Can you identify this for me?

14 A. Yes.

15 These are invoices from my employer to  
16 Mr. McWilliams.

17 Q. So, Doctor, I noted that the first invoice  
18 is dated October 17, 2014.

19 A. Okay. October 17th, okay.

20 Q. Did you do -- when did you first start  
21 working on forming your opinions in this case?

22 A. In -- let's see. In the time period  
23 that's referenced by this invoice. So in  
24 September 2014.

25 Q. Doctor, I noticed at the bottom there's a

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 reference to an outstanding invoice from August  
2 of 2014?

3 A. Oh, yeah. Uh-huh.

4 Q. Would that have been related to your work  
5 in this case?

6 A. Yes. Yes. Actually, yeah.

7 So we gathered some documents early on,  
8 and there was an -- I must have invoiced for, yeah.  
9 Because then I began to review them but really  
10 didn't do anything else.

11 Q. Okay. So to the best of your  
12 recollection, your work started somewhere between  
13 August and October of 2014?

14 A. Yeah.

15 So maybe it would have -- if the invoice  
16 date is August, so that means it was for work in  
17 July. So I think it would have been probably  
18 July 2014.

19 Q. And you'd be able to produce a copy of  
20 that invoice to your -- to counsel?

21 A. I should be able to.

22 Q. All right. In the last -- the last  
23 invoice we have here is for February 16, 2015.

24 A. Yes.

25 Q. Do you have -- is there any outstanding

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 work that you have not yet billed for?

2 A. Well, preparation for today.

3 Q. Okay. Anything else?

4 A. Not that I can think of.

5 (MacIntosh Exhibit 10 marked for

6 identification.)

7 QUESTIONS BY MR. FAZIO:

8 Q. Doctor, you're being handed what's been  
9 marked as Exhibit 10.

10 A. Okay.

11 Q. Can you identify that for me, please, sir?

12 A. Exhibit 10 is a document that I prepared.

13 Q. Okay. And can you describe for me what it  
14 is?

15 A. Yeah, I can.

16 It's a -- it's a directory or a listing of  
17 information related to Carla Bartlett's residential  
18 history and water connections to the Tupper Plains  
19 District.

20 Q. Okay. So on the -- the first page of  
21 this, there's a summary.

22 Is this a summary of the documents that  
23 follow?

24 A. Yes.

25 Q. Okay. And when did you prepare this --



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 this document, Exhibit 14? Or, I'm sorry,  
2 Exhibit 10?

3 A. I prepared this in, I believe it was,  
4 December 2014.

5 Q. Was this prepared before or after you  
6 issued your report?

7 A. I prepared this after I issued my report.

8 Q. Okay. And the documents that are -- that  
9 are provided in Exhibit 10, were these all documents  
10 that you had prior to issuing your report in this  
11 case?

12 A. I believe they are. I think they're all  
13 cited in my report.

14 Q. To the best of your knowledge, these are  
15 all things that were cited in your report?

16 A. To the best of my knowledge.

17 We could go through and check them off one  
18 by one if you like, but that is to the best of my  
19 knowledge.

20 I think it's possible that maybe some of  
21 these images like this one on, let's see, page 2,  
22 3 -- it's the fifth page may -- I don't know if I  
23 had that before. I might have. But we can check  
24 again if you would like.

25 But that image is drawn from the public

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 records.

2 Q. So you're saying on page 5 of Exhibit 10,  
3 this image?

4 A. Let's see. Yeah. Yes. That one.

5 But it's just -- it's a screenshot right  
6 from the public records that are available online.

7 Q. Okay. And when you say "the public  
8 records available online," can you tell me  
9 specifically where you got this?

10 A. I believe it comes from the Athens County,  
11 Ohio, property records.

12 (MacIntosh Exhibit 11 marked for  
13 identification.)

14 QUESTIONS BY MR. FAZIO:

15 Q. Okay. Doctor, you've been handed what's  
16 been marked as Exhibit 11.

17 Can you identify that for me?

18 A. Yes.

19 This is another document that I prepared.  
20 It's analogous to the one we just examined in  
21 Exhibit 10 for Ms. Bartlett, but instead it's --  
22 relates to Mr. Wolf.

23 Q. Okay. Could you just take a minute to  
24 review it quickly and let me know if there's  
25 anything in here that you believe you came into

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 possession of after you issued your report in this  
2 case?

3 A. Yes, I will do that.

4 I believe this is all material that I had  
5 before issuing my report.

6 (MacIntosh Exhibit 12 marked for  
7 identification.)

8 QUESTIONS BY MR. FAZIO:

9 Q. Doctor, you've been handed what's been  
10 marked as Exhibit 12 to your deposition.

11 Can you identify this for me?

12 A. Yes.

13 This is a document that I prepared.

14 Q. Okay.

15 A. It's a residential history of -- for  
16 Mr. Wolf focused on the periods when he lived in the  
17 Parkersburg -- in Parkersburg and in -- in buildings  
18 that were connected to the Lubeck Public Service  
19 District Water.

20 Q. Okay. And what's the relevance of the  
21 Historic Events column on the far right-hand side?

22 A. Oh, this was -- so I prepared this in  
23 anticipation of talking with Mr. Wolf, and I -- and  
24 I wanted to talk to him to prepare for today, to  
25 prepare for the deposition, and just to be a better

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 resource to the jury. And I wanted to talk to him  
2 about his historic water use and to -- and, you  
3 know, this was back in time, and I wanted to help  
4 him get his mind into those time periods.

5 And one way that people do that in my  
6 field is to bring up events that many people  
7 remember, because it can help them just get into the  
8 context of the time and space of what they were  
9 doing at that point in their lives.

10 Q. So this was something that you were -- you  
11 developed for your own use in a conversation after  
12 you issued your report in this case, with -- I'm  
13 sorry, in a conversation with Mr. Wolf after you  
14 issued your report in this case?

15 A. Yes, that's right, as I was preparing for  
16 this deposition and later stages of this project.

17 Q. Okay. Well, why was it necessary to -- to  
18 develop this kind of tool if you had already  
19 established what his addresses were at these various  
20 points in time?

21 A. Oh, it wasn't necessary to establish the  
22 opinions that appear in my report. I was -- I just  
23 wanted to be as prepared as I could for today, and  
24 I -- I thought it would be helpful to gather  
25 information that could bolster my -- you know, the

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 information I had already, and that was my  
2 objective.

3 Q. So this was something you prepared not  
4 just for your conversation with Mr. Wolf but for the  
5 deposition today; is that accurate?

6 A. It's part of my preparation, uh-huh.

7 (MacIntosh Exhibit 13 marked for  
8 identification.)

9 QUESTIONS BY MR. FAZIO:

10 Q. I'm handing you what has been marked as  
11 Exhibit 13.

12 A. Yes.

13 Q. Give me just a second. I'll give counsel  
14 a copy.

15 A. Okay.

16 Q. Can you tell me what this is, Doctor?

17 A. Yes.

18 Exhibit 13 is a record of information that  
19 I gathered when speaking with Mr. Wolf in  
20 January 2015, and it was part of what I did to  
21 prepare for today and for the future.

22 Q. All right. So, Doctor, this is an  
23 interview -- so the interview occurred on January 7,  
24 2015; is that accurate?

25 A. That's right.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Q. Okay. And so what was the purpose of this  
2 interview?

3 A. Again, it was to prepare for today, this  
4 deposition, and to gather more refined information  
5 about Mr. Wolf's use of tap water in his residences.

6 Q. Okay. So under general notes on page 1 --

7 A. Uh-huh.

8 Q. -- it says -- it says, "Remember seeing  
9 stuff flowing in the water when visiting mom in the  
10 '80s."

11 A. Uh-huh.

12 Q. Is that something that Mr. Wolf said to  
13 you?

14 A. Yes.

15 Q. Okay.

16 A. That is.

17 Q. And to be clear, this was an interview  
18 with both Mr. and Mrs. Wolf?

19 A. Mr. and Mrs. Wolf were present.

20 Q. Okay. Were all of the responses that are  
21 contained in Exhibit 13, did they come from Mr. Wolf  
22 alone, or did Mrs. -- did Mrs. Wolf offer  
23 information as well?

24 A. Mrs. Wolf offered information from time to  
25 time, but the responses that are recorded here came

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 from him.

2 Q. All right. So this -- this note,  
3 "remember seeing stuff floating in the water when  
4 visiting mom in the '80s," it's something that  
5 Mr. Wolf said to you?

6 A. Yes.

7 Q. Okay. And where did mom live?

8 A. She lived in Parkersburg, I believe.

9 Q. Okay. Do you know where in Parkersburg?

10 A. I don't recall right now. We might have  
11 that information.

12 Q. And did you ever make any kind of  
13 determination of what the, quote, unquote, stuff was  
14 in the water?

15 A. No, it was -- no, outside my scope. It  
16 was...

17 Q. Are you done with your answer?

18 A. Yes, sorry.

19 Q. Oh, that's okay. Sorry.

20 Doctor, can we agree that you would not be  
21 able to see PFOA in water?

22 A. I -- I haven't attempted to answer that  
23 question.

24 Q. Okay. So you don't have an opinion one  
25 way or another?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. No.

2 Q. Okay. So, Doctor, on page 3 there's a --  
3 a table that it looks like you used in your  
4 discussions with the Wolfs.

5 Is that accurate?

6 A. Yeah, that's correct.

7 Q. Okay. Who filled -- whose writing appears  
8 on this?

9 A. That is my writing.

10 Q. That's your writing.

11 Okay. Is this table, this interview form  
12 that you've used, which is Exhibit 13, is this  
13 something that you created for the purposes of this  
14 case?

15 A. Yes, it is something that I created for --  
16 for use in my work, but it's drawn upon and adapted  
17 from other questionnaires that I've developed or  
18 used over time.

19 Q. And when specifically did you develop  
20 this -- this particular questionnaire for your use  
21 in this case?

22 A. Certainly prior to January 7th. I don't  
23 recall exactly.

24 Q. Okay. Do you recall if it was before or  
25 after you issued your report in this case?



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Oh, I believe it was developed after  
2 because it was part of my preparation for going  
3 forward where we are now.

4 (MacIntosh Exhibit 14 marked for  
5 identification.)

6 QUESTIONS BY MR. FAZIO:

7 Q. So, Doctor, you've been handed what's been  
8 marked as Exhibit 14.

9 Can you identify this for me?

10 A. Yes.

11 Exhibit 14 is the record of the  
12 information that I gathered from Ms. Bartlett when I  
13 visited her on January 7th --

14 Q. Okay.

15 A. -- this year.

16 Q. And to go -- let's go back to Mr. Wolf,  
17 Mr. and Mrs. Wolf, for a minute.

18 Did you actually -- did you meet with the  
19 Wolfs in person on January 7, 2015?

20 A. Yes, I did.

21 Q. Okay. And where did that meeting take  
22 place?

23 A. We met at their residence.

24 Q. All right. So tell me about your meeting  
25 with Ms. Bartlett on the 17th.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1           Was it -- first of all, who was present at  
2   the meeting?

3           A.   People present at the meeting with  
4   Ms. Bartlett on January 7, 2015, were myself, my  
5   colleague, Taeko Minegishi, Ms. Bartlett, her  
6   husband, John Bartlett, and Mr. Don Harper.

7           Q.   And who is Mr. Harper?

8           A.   Mr. Harper is a resident of that area who  
9   I asked to be present.

10          Q.   Okay. And what were the circumstances  
11   under which you came to ask Mr. Harper to be  
12   present?

13          A.   I wanted to -- part of my -- as part of my  
14   preparation, I wanted to have -- I wanted to see  
15   these water connections. And Mr. Harper is in the  
16   profession of installing water lines, and I thought  
17   it would be helpful to have someone there who could  
18   point out features and describe the process to me.

19          Q.   Okay. And how is it that you came to be  
20   acquainted with Mr. Harper?

21          A.   I was introduced to him -- to Mr. Harper  
22   by my -- by EH&E's client in this matter.

23          Q.   Okay. So by the lawyers?

24          A.   Yes.

25          Q.   And you say that Mr. Harper is in the

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 business of installing water meters?

2 A. No.

3 My understanding is that his business is  
4 installing water lines on -- on -- you know, for  
5 community water systems, and he may very well do  
6 other things, too.

7 Q. Do you know who Mr. Harper's employer is?

8 A. I think he's self-employed. I believe he  
9 has his own business.

10 Q. Do you know the name of that business?

11 A. I don't recall right now.

12 Q. How would you go about getting in contact  
13 with Mr. Harper if you needed him?

14 A. I have -- I believe I have telephone  
15 contact information for him and e-mail contact  
16 information for him.

17 Q. And so when is it that you first became  
18 acquainted with Mr. Harper?

19 A. I first became acquainted with Mr. Harper  
20 in December of 2014.

21 Q. And was Mr. Harper also present in your  
22 January 7, 2015 meeting with the Wolfs?

23 A. No.

24 Q. He was not.

25 Any particular reason why he was -- he

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 participated in the meeting with Mr. and  
2 Mrs. Bartlett but not with Mr. and Mrs. Wolf?

3 A. I didn't think it was necessary to have  
4 him there in the meeting with the Wolfs.

5 Q. Okay. Why is that?

6 A. I -- I didn't -- because I did not intend  
7 to examine the water meters at the Wolf residence  
8 because I -- there was no -- I didn't think there  
9 was a need to.

10 Q. Were you relying on Mr. Harper in any way  
11 in forming your opinions in this case?

12 A. No.

13 Q. So what is it that Mr. Harper -- how did  
14 Mr. -- strike that.

15 So you go and you meet with -- with the  
16 Bartletts, and this is -- you met with them at 3933  
17 Lottridge Road; is that correct?

18 A. Oh, that's a mistake. No, that -- I'm  
19 glad you mentioned that. That's 3933 Roadside Park  
20 Road, their current residence.

21 Q. All right. You say, "General notes. Walk  
22 around the house with Don Harper and Carla's  
23 husband, John Bartlett. Saw the old -- saw water  
24 meter, paren, old, close paren, at Depoys' old house  
25 and old water spigot for the old trailer they lived

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 in. Also identified the current water meter." And  
2 then it says, paren, "well."

3 A. Correct.

4 Q. Okay. So I take it that while you were --  
5 during this meeting, you actually inspected this  
6 piece of property; is that --

7 A. Yeah. So that walk around the house would  
8 be really their property.

9 Q. Okay. And so you -- this was the outside  
10 of the house?

11 A. Correct.

12 Q. Okay. And so that was with Mr. Harper and  
13 Mr. Bartlett?

14 A. Yes.

15 Q. Okay. Did Mrs. Bartlett participate in  
16 that?

17 A. No.

18 Q. Okay. And you went and you looked at the  
19 old water meter.

20 What was the significance of going to look  
21 at the old water meter, if any?

22 A. Well, if you recall from our prior  
23 discussion today, there was a time when Ms. Bartlett  
24 lived in a trailer on the property owned by the  
25 Depoys and received -- and that trailer received

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 water that was piped from the Depoys' residence.

2 So I was interested in observing the --  
3 the water meter that served the Depoy residence at  
4 that time.

5 Q. And what was it that you hoped to learn  
6 from the water meter?

7 A. I wanted to see that it was there, that it  
8 truly existed. And I also wanted to understand what  
9 people -- I've read in these depositions and the  
10 like about taps being installed, and I wanted to see  
11 for myself what people were -- were referring to  
12 when they used a term like "tap" or "the meter."

13 Q. You say, "Also identified the current  
14 water meter, open paren, well, close paren."

15 What does that mean, sir?

16 A. So currently the -- and since -- in my  
17 report. But since, I think, the late '90s, the  
18 Bartlett residence has been connected directly to  
19 the Tupper Plains Water District and has its own  
20 meter and account. And so it's that -- it's the  
21 meter that's associated with their current account  
22 that I mean by the "current water meter."

23 And then when it says "well" in  
24 parentheses, that's in reference to the physical  
25 disposition of the meter, which is below grade,

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 surrounded by a container that Mr. Harper and  
2 Mr. Bartlett referred to as a well.

3 Q. Okay. So the meter itself is located  
4 below grade?

5 A. That's what -- yeah.

6 Q. So it's not well -- they're not receiving  
7 well water?

8 A. Right.

9 I was concerned that that might be  
10 misconstrued, but that's not it.

11 Q. Okay.

12 A. It's just -- that's the term the -- of  
13 art, perhaps, that the -- Mr. Bartlett and  
14 Mr. Harper used when talking about the physical  
15 location of that meter.

16 Q. So let's go back to Mr. Harper for a  
17 minute.

18 Has Mr. Harper provided you with any of  
19 the documents that you relied on in this case?

20 A. No.

21 Q. Okay. Aside from the January 7, 2015  
22 meeting with the Bartletts, have you had any other  
23 communications with Mr. Harper?

24 A. Not since then, no.

25 Q. Did you have any prior to that?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1       A. I did communicate with him to coordinate  
2       the logistics of the meeting and also to provide him  
3       with background information on the locations of  
4       interest to me.

5       Q. And what was it that you expected him to  
6       do with that background information?

7       A. To familiarize himself with these  
8       locations, to -- so that he could be prepared to  
9       visit these locations in my company.

10      Q. Okay. And what -- and what is it that you  
11      expected him to do during this visit?

12      A. I expected him to -- to look at these  
13      water meters and say, yeah or no, that's a water  
14      meter. You know, that's what we do in this part of  
15      the country at these times.

16             And that's what he did.

17      Q. Is it something you -- you didn't feel  
18      qualified to do yourself?

19             MR. MCWILLIAMS: Object to form.

20             THE WITNESS: I don't know if I would say  
21      that I didn't feel qualified. But I know what the  
22      water meter looks like in properties that I've owned  
23      over time, but I -- I felt it would be helpful to  
24      have someone local, with local expertise, to confirm  
25      what I saw.



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 QUESTIONS BY MR. FAZIO:

2 Q. All right. So tell me what -- what you  
3 know -- I mean, so you mentioned to me that  
4 Mr. Harper has some experience installing water  
5 lines in and around this community.

6 Is that accurate?

7 A. That's my understanding.

8 Q. Okay. What else do you know about  
9 Mr. Harper's background?

10 A. I believe that he's been in that  
11 profession for an extended period of time, perhaps  
12 his whole life. I think he's quite familiar with  
13 the -- with at least some aspects of the public  
14 water districts in that area.

15 He told me that he had even -- that he  
16 thinks his company had installed some of the Tupper  
17 Plains lines along US 50.

18 Q. Okay. And so I think earlier you  
19 mentioned he was self-employed.

20 Is that his own -- the -- his company or a  
21 company that he previously worked for actually  
22 installed these lines in Tupper Plains?

23 A. I think it's his company.

24 Q. Okay.

25 A. But that's just my recollection.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Q. And you don't recall the name of his  
2 company?

3 A. I don't recall the name.

4 Q. Do you recall his e-mail address?

5 A. Not offhand.

6 Q. Do you recall if he ever worked for any of  
7 the public water districts that are at issue in this  
8 litigation?

9 A. I don't know.

10 Q. Anything else you can tell me about  
11 Mr. Harper?

12 A. Not -- probably that's not of relevance.

13 Q. Okay.

14 A. I can describe him to you, what he looks  
15 like and things like that.

16 Q. Approximately how old would you say  
17 Mr. Harper is?

18 A. I would say Mr. Harper's 60 years old,  
19 perhaps.

20 Q. Okay. Do you know where he lives?

21 A. No.

22 I mean, he might have told me he lives in  
23 Parkersburg, but I'm not sure.

24 Q. Doctor, so page -- there's some notes on  
25 page 6 of Exhibit 14.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Okay.

2 Q. Can you tell me what these are?

3 A. Yes.

4 These are notes that were taken during the  
5 interview and conversation with Ms. Bartlett.

6 Q. Okay. And so what did Ms. Bartlett tell  
7 you about buying Tupper Plains water while at 4945  
8 Sand Ridge Road?

9 A. Exactly what the notes here say. There  
10 was a period back in the early '90s when she,  
11 Ms. Bartlett, and her husband lived at the address  
12 shown here, 4945 Sand Ridge Road, and I believe that  
13 they were drawing water from a well.

14 But she told me when meeting with her that  
15 occasionally she bought water from Tupper Plains.  
16 That -- that was the extent of it.

17 Q. And did she tell you sort of mechanically  
18 how that happened?

19 How does one go about buying water from a  
20 water district if you're on well?

21 A. She described -- she and her husband  
22 described having a tank and a tank being on a --  
23 on -- sounded like to me on the back of a pickup  
24 truck and being filled and then driven to the  
25 location where the water would be used.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Q. And was this water that was used for  
2 drinking?

3 A. I don't know.

4 Q. She didn't indicate?

5 A. I don't recall.

6 Q. Okay. And the bottom note there says,  
7 "Bought the trailer while Sand Ridge Road, then  
8 moved to Roadside Park."

9 A. Uh-huh.

10 Q. Is that the -- that's the trailer that we  
11 discussed earlier that she lived in?

12 A. Right.

13 So what that note means is that she and  
14 her husband purchased a trailer when they had lived  
15 at the Sand Ridge Road address, and they  
16 installed -- had that trailer installed at the  
17 Roadside Park address, which was on the Depoys'  
18 property.

19 Q. Sir, on page 7?

20 A. Yes.

21 Which one is that?

22 Q. I'm sorry, I'm on -- it's Exhibit 14.

23 A. Okay.

24 Q. Under Notes, the third row down, can you  
25 tell me what that says?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Notes. Wait, I'm sorry, what page are you  
2 on? 5?

3 Q. 7.

4 A. 7.

5 Q. Page 7.

6 MR. MCWILLIAMS: I think it's different  
7 exhibit, Dave.

8 THE WITNESS: Am I on the wrong --

9 MR. FAZIO: Exhibit 14.

10 THE WITNESS: Show me that page again?

11 MR. FAZIO: This is your interview form  
12 for Mr. and Mrs. Bartlett.

13 THE WITNESS: Yes. Yeah, which one with  
14 which notes?

15 QUESTIONS BY MR. FAZIO:

16 Q. I'm talking about this one here.

17 A. Okay. There's several that look similar.

18 Q. Yeah, if you look --

19 A. Okay, I'm with you.

20 Q. Okay. So you're on page 7 of Exhibit 14  
21 now?

22 A. Yes.

23 Q. Okay. So third row down. Can you just  
24 explain -- is this your handwriting again, or is  
25 this someone else's?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. That's my handwriting.

2 Q. Okay. Can you just read that for me?

3 A. Yes.

4 So the -- in the Notes column, third row  
5 down, I wrote, "Summer can be up to two gallons per  
6 day among Carla, John and Alex."

7 And that was in reference to the amount of  
8 tea that they would collectively consume. You know,  
9 upper bound, I think, summer, could be up to how  
10 much iced tea made -- or tea made from tap water  
11 that they may consume.

12 (MacIntosh Exhibit 15 marked for  
13 identification.)

14 QUESTIONS BY MR. FAZIO:

15 Q. All right. You've been handed what's been  
16 marked as Exhibit 15?

17 A. Yes.

18 Q. Can you go ahead and tell me what this is?

19 A. Yes.

20 This is a copy of notes that my colleague,  
21 Taeko Minegishi, made on January 7, 2015, in  
22 reference to information that we gathered while --  
23 while at -- while meeting with Ms. Bartlett.

24 Q. So in the upper right-hand corner it says  
25 "19846."

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 What's the significance of --

2 A. That number is a number that identifies  
3 the project within my firm.

4 Q. Okay. Is this a summary of all of the  
5 photos that were taken, or is -- is it the photos  
6 just being referred to above the line, the top of  
7 page 1 of Exhibit 15?

8 A. It's -- where it says "photo" and then  
9 there are three entries below that --

10 Q. Uh-huh.

11 A. -- "Depoys' water line, water meter,  
12 original hookup," it's just a reference to the areas  
13 from which we obtained photos while there.

14 MR. FAZIO: Okay. Ned, are these photos  
15 all from Bartlett, or is there an mixture of  
16 Bartlett and Wolf here?

17 MR. MCWILLIAMS: I'm not sure. I would  
18 ask him.

19 QUESTIONS BY MR. FAZIO:

20 Q. So, Doctor, is there -- are these all of  
21 the photos that have -- we were provided with a  
22 group of photos.

23 A. Uh-huh.

24 Q. Are these all related to Ms. Bartlett, or  
25 are some of these Wolf and some of these Bartlett?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Some are Wolf and some are Bartlett. It's  
2 easy to separate them.

3 Q. Okay. So let's go ahead and we'll just  
4 mark them all together.

5 A. Okay.

6 (MacIntosh Exhibit 16 marked for  
7 identification.)

8 QUESTIONS BY MR. FAZIO:

9 Q. Doctor, this is what's been marked as  
10 Exhibit 16.

11 A. Okay.

12 Q. All right. Doctor, why don't just tell me  
13 briefly what we have in Exhibit 16.

14 A. Okay. We have --

15 MR. MCWILLIAMS: Can I make a  
16 recommendation you maybe A, B, C these. Otherwise,  
17 we have no idea what he's talking about.

18 MR. FAZIO: Yeah, actually, why don't you  
19 handwrite a number on the bottom.

20 THE WITNESS: Sure. Red?

21 MR. FAZIO: Yeah, just go ahead and --  
22 red's fine. Let's just go ahead and number them so  
23 it's clear what we're talking about.

24 THE WITNESS: Okay. There's a lot of  
25 glare here so I'll move.



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1           Okay. So I'll number or indicate the  
2   first one is A, and this is a photograph of  
3   Lottridge Road, the area of Lottridge Road where  
4   Ms. Bartlett resided from her early youth  
5   through 1989.

6           MR. FAZIO: You --

7           MR. MCWILLIAMS: Probably just put the "A"  
8   and then the --

9           THE WITNESS: Oh, I don't need to write  
10   what it is?

11          QUESTIONS BY MR. FAZIO:

12         Q. Yeah, you don't need to write what it is.  
13         Just show a number on each of them so it's clear on  
14         the record. Show -- she's writing down everything  
15         you're saying.

16         A. Okay. Thank you.

17         B is -- B is an online image of the same  
18         area on Lottridge Road.

19         Oh, I'm sorry about A. It's also an  
20         online image. My mistake. It's not a photograph  
21         that we took at the time.

22         C, also an online image of County Road 53,  
23         which I believe -- my recollection is Lottridge Road  
24         also.

25         Yeah. Same with D, Lottridge Road, online

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 image.  
2 E, Lottridge Road image, and this is  
3 showing what I understand to be the residence of  
4 Ms. Bartlett's sister.  
5 F is also an online image. This is of the  
6 residence where Ms. Bartlett resided when she was a  
7 child and teenager and young adult. And then  
8 there's some marking on it that I made during the --  
9 and a note that I took during the conversation --  
10 oh, it's also -- part of the marking is from  
11 Mr. Bartlett, Carla's husband, and it's indicating  
12 approximately where you would expect the water meter  
13 to be at Carla's parents' home on Lottridge Road.  
14 Okay. G is a photograph taken during our  
15 inspection of the property on January 7, 2015. This  
16 is on the side of the former Depoy residence on  
17 Roadside Park Road. It's showing an outdoor spigot.  
18 That's G.  
19 H is a photograph of the water meter cover  
20 at -- adjacent to this spigot that's shown in  
21 photograph G. So this is -- this is the cover of  
22 the water meter that was associated with the Depoy  
23 Tupper Plains District water account.  
24 I is the same area as G and H, just backed  
25 up a little bit so you can see the side of the

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 building, the spigot.

2 J is a sensor or communication device that  
3 my understanding is that the water district uses  
4 when reading the water meter at the Depoy residence.

5 K is a photograph of the current residence  
6 of Ms. Bartlett. It shows a water spigot in the  
7 front that I was informed was installed when the  
8 Depoy -- when -- actually I don't know when it was  
9 installed, but it was there when the Bartletts first  
10 began to reside in this location.

11 L is another image of that same spigot  
12 shown on K.

13 M is a photograph of the water meter  
14 cover -- the cover for the water meter that serves  
15 the Depoy -- the Bartlett residence currently.

16 So that's all Bartlett.

17 Q. Okay.

18 A. N is now -- well, this is a photograph of  
19 a mailbox that was there on January 7, 2015, at an  
20 address 6 Wildwood Road in Parkersburg, but also was  
21 identified as 60, 6-0, Wildwood Road. The intent  
22 was to get a photograph that showed both of those  
23 numerical addresses are for the same location. It's  
24 hard to see in the photo.

25 O is another photo of that same mailbox

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 area.

2 P is -- I know what's -- I know what's in  
3 the dark, and that's the building that goes with the  
4 mailbox, but you can't see it.

5 Q is an online image -- oh, we're back at  
6 the Bartlett residence again. So it's an online  
7 image of where they live at present. And there are  
8 markings on this image that were made by both me and  
9 Mr. Bartlett, and the markings indicate where the  
10 trailer they lived in originally at this location  
11 was located.

12 R is another online image of the Roadside  
13 Park area for Ms. Bartlett.

14 S is the same general type of image as R.

15 Q. Can you just hand me the exhibit for one  
16 second?

17 A. Sure. Yes.

18 Q. Thank you.

19 A. You're welcome.

20 MR. FAZIO: Do we want to take an earlier  
21 lunch break, a slightly early lunch break, and get  
22 that out of the way?

23 Or actually, when is your lunch arriving?

24 MR. MCWILLIAMS: I think at noon, but how  
25 much longer do you think you have?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 MR. FAZIO: I don't think I have very  
2 much. I mean, maybe a half hour at most.

3 Actually, it will helpful to me to take a  
4 break so I can just get organized.

5 THE WITNESS: Let's do that.

6 MR. MCWILLIAMS: You just want to -- let's  
7 go off the record.

8 MR. FAZIO: Yeah, let's off the record.

9 VIDEOGRAPHER: We're off the record.

10 (Off the record at 11:45 a.m.)

11 (Whereupon, at 11:45 a.m., the  
12 deposition in the above-entitled  
13 matter was recessed, to reconvene at  
14 12:30 p.m., this same day.)

15

16

17

18

19

20

21

22

23

24

25

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 AFTERNOON SESSION

2 (12:32 p.m.)

3 Whereupon,

4 DAVID MACINTOSH,

5 the witness herein, called for examination by

6 Counsel for Defendant and having been previously

7 duly sworn, was further examined and testified as

8 follows:

9 VIDEOGRAPHER: The time is 12:32 p.m.

10 We're back on the record.

11 (MacIntosh Exhibit 17 marked for

12 identification.)

13 EXAMINATION BY COUNSEL FOR DEFENDANT (RESUMED)

14 QUESTIONS BY MR. FAZIO:

15 Q. Doctor, I'm handing you what's been marked  
16 as Exhibit 17.

17 Can you identify that for me?

18 A. Yes.

19 Q. Okay. What is that?

20 A. This is a -- Exhibit 17 is a list of  
21 materials that I've reviewed or considered following  
22 submission of my report in December 2014.

23 Q. Okay. So these were all things that you  
24 reviewed after -- after you completed your report in  
25 December of '14?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. No. No. I'm -- actually --

2 MR. MCWILLIAMS: Yeah, this is -- this is  
3 the supplemental one.

4 THE WITNESS: Uh-huh.

5 Although at least one of these -- there  
6 may be a little -- like this on page 2, Ms. Vieira,  
7 I certainly looked at before I reviewed -- before  
8 submitting my report.

9 QUESTIONS BY MR. FAZIO:

10 Q. Doctor, just so the record's clear, I  
11 mean, these are things that -- is this a mixture of  
12 things -- some things you saw before you issued your  
13 report and some things you saw after?

14 A. I think it's intended to be after, but I  
15 just identified...

16 MR. MCWILLIAMS: And I'll just put on the  
17 record this was prepared by counsel, so it's -- I  
18 mean it's important to let him -- it's very possible  
19 that we, you know, made a mistake.

20 So this was not prepared by Dr. MacIntosh,  
21 but...

22 QUESTIONS BY MR. FAZIO:

23 Q. So, Doctor, why don't you take a minute to  
24 review it and let me know if there are things on  
25 this list that you saw before you issued your report

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 in December of 2014.

2 A. Okay.

3 Okay. I'm all set.

4 Q. All right. So can you tell me, were  
5 these -- what, if any, of these things were things  
6 that you reviewed or considered prior to issuing  
7 your report in December of 2014?

8 A. Yes.

9 I -- I identified three. All three are in  
10 the table titled "Literature."

11 Q. Okay.

12 A. One is the -- the first entry begins  
13 "Barry."

14 Second is the third entry, begins  
15 "Calafat."

16 And the third is the final entry that  
17 begins "Vieira."

18 Q. And so everything else on Exhibit 17 are  
19 things that you reviewed or were provided after you  
20 issued your report in December of 2014, other than  
21 the three things you just identified?

22 A. That's right. Materials that I examined  
23 and considered to prepare for today.

24 Q. All right. Doctor, is there any  
25 particular reason why those three entries were not



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 included in the list of materials you considered  
2 when you issued your report in December 2015 -- or,  
3 I'm sorry, 2014?

4 A. I don't know of any particular reason.

5 Q. The attached Exhibit 6, which was attached  
6 to your report, is that something that you prepared,  
7 or was that prepared for you by counsel?

8 A. That was prepared by counsel.

9 MR. MCWILLIAMS: Let me find it for you.

10 THE WITNESS: Yeah. Right.

11 Thank you. Uh-huh.

12 QUESTIONS BY MR. FAZIO:

13 Q. So obviously any -- for any of the -- on  
14 Exhibit 17, any of the documents that you did not  
15 have in your possession prior to issuing your  
16 report, you did not rely on those in forming your  
17 opinions as expressed in your December 2014 report,  
18 correct?

19 A. I think that's correct, although some of  
20 these documents are cited in documents I did rely  
21 on, so I was aware of them.

22 Q. Doctor, on exhibit -- Exhibit 6, a couple  
23 questions for you.

24 On page 3 of 4, about a third of the way  
25 down there's an entry that just says, "C8 project

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 survey introduction."

2 Can you tell me what that is and where you  
3 got it?

4 A. I don't recall what that is. If you pull  
5 it up, I'd be happy to review it and let you know.

6 Q. Well, then the next entry down is Vieira.  
7 It says: Geographic Patterns of Cancer Study, paren  
8 PowerPoint, close paren.

9 Do you know where you obtained that?

10 A. That was provided to me by counsel.

11 Q. Okay. And then finally just says "C8  
12 science panel public slide presentation."

13 Do you -- can you tell me which slide  
14 presentation that is?

15 A. No, not offhand.

16 Q. Okay.

17 A. But we could certainly look at it and  
18 identify it that way.

19 MR. FAZIO: Can you -- would you be  
20 willing to produce those to us so we know exactly  
21 what it is that he's referring to?

22 MR. MCWILLIAMS: Yeah. If you could just  
23 send me a request at the end of the deposition.

24 MR. FAZIO: Yes.

25 MR. MCWILLIAMS: I'm quite confident it's

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 stuff that's been produced in discovery.

2 MR. FAZIO: Okay. Yeah, and it may just  
3 be --

4 MR. MCWILLIAMS: I think it's a poor  
5 description on our end, sorry.

6 MR. FAZIO: It's okay.

7 QUESTIONS BY MR. FAZIO:

8 Q. All right. So anything else that you  
9 considered in forming your opinions as expressed in  
10 your December 2014 report that are not listed either  
11 in the footnotes or the body of your report itself  
12 or in Exhibit 6 or as you've indicated on  
13 Exhibit 17?

14 A. Well, the materials that you just  
15 identified, as well as the totality of my experience  
16 and education and training.

17 Q. Right. Okay.

18 But I'm talking about specific -- the  
19 specific documents that you were considering in  
20 forming your opinion. I'm not talking about your --  
21 your experience.

22 Between the three things we just  
23 identified -- the three documents we just  
24 identified, the body of your report, Exhibit 6 and  
25 Exhibit 17, those are all the specific -- documents

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 you specifically reviewed and considered in forming  
2 your opinions as expressed in your December 2014  
3 report?

4 A. My intent was to provide them all, yes.

5 Q. All right. Doctor, let's pull up -- if  
6 you'll pull out Exhibit 3 here, your CV.

7 A. Okay.

8 Q. This was a copy of the CV that was  
9 provided to us with your report.

10 Is there anything that needs to be done to  
11 bring this up to date?

12 Do you have any publications or  
13 presentations or relevant experience that have  
14 arisen since you provided this CV to us?

15 A. Let's see. I know one item that's kind of  
16 a housekeeping that should be updated. It's in the  
17 background section, so it's not in the -- the group  
18 of -- the categories you just mentioned.

19 So the -- under background, the third  
20 item, it says, "2009 to dash, adjunct associate  
21 professor of environmental health, Harvard School of  
22 Public Health, Boston." The name of the school  
23 changed in the last six months or so.

24 Q. Really?

25 A. To the -- I think the CT Chan Harvard

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 School of Public Health. They made a big donation.

2 Q. Okay.

3 A. So --

4 Q. But otherwise, your role there is the  
5 same?

6 A. My role is same, but it's just we were all  
7 instructed to update references to the name.

8 Q. The sign on the building has changed  
9 and --

10 A. Yes, so I just want to get that on the  
11 record.

12 Q. I'll send a note to your boss.

13 A. Thank you. Duly complied with policy.

14 Q. All right. So you -- as I understand,  
15 you've been an adjunct professor at -- I'm going to  
16 continue referring to it as the Harvard School of  
17 Public Health.

18 A. Okay.

19 Q. Since 2009, that's correct?

20 A. Yes. Yes.

21 Q. Okay. Currently, what percentage of your  
22 time is devoted to teaching or research  
23 responsibilities at Harvard?

24 A. I would say about 10 percent.

25 Q. Okay. And between teaching and research,

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 how does it break down?

2 A. Oh, it's mostly teaching. So it's

3 95 percent teaching.

4 Q. Okay.

5 A. Right now.

6 Q. Does it change over time?

7 A. It has changed over time, but previously I

8 was on the committee of -- of a doctoral student,

9 and that took some time. But even then it was

10 probably 80/20, teaching/research.

11 Q. And you identify one course that you

12 teach.

13 Are there -- is there any -- are there any

14 other courses that you teach besides -- I think

15 there's an environmental -- or exposure assessment

16 course you teach?

17 A. Yes, I do teach that course, Fundamentals

18 of Human Exposure Assessment, and that's the sole

19 course that I teach there.

20 Q. Have you ever taught any other courses

21 there?

22 A. No. I've lectured in some classes, but I

23 never -- I haven't been responsible for other

24 classes.

25 Q. So that's a situation wherein some other

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 faculty member asked you to come in and give a talk  
2 about a particular topic?

3 A. Right.

4 Q. Of your -- of the publications that you've  
5 listed in your CV, are there any that you contend  
6 are particularly relevant to your opinions in this  
7 case?

8 A. Well, I think they're all relevant to some  
9 degree because they inform my -- or comprise my  
10 experience, in part. I think that there are several  
11 that are probably more -- more relevant than others.

12 Q. Okay.

13 A. That's because they deal with subject  
14 matter that is analogous to some of the work that I  
15 reviewed and upon which I based my opinions.

16 Q. Okay. Why don't you just identify those  
17 for me.

18 A. Okay. Well, I think the -- the very first  
19 one -- or, I'm sorry, I'm looking at this in reverse  
20 chronology.

21 So on -- see, I'm the first author. It's  
22 on the bottom -- these pages aren't numbered,  
23 unfortunately.

24 MR. MCWILLIAMS: Would you want to have  
25 him mark it?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 MR. FAZIO: Say again?

2 MR. MCWILLIAMS: Just a question. Just  
3 mark the ones --

4 MR. FAZIO: Yeah, if you want to just  
5 number the pages --

6 MR. MCWILLIAMS: No, I meant mark the  
7 individual papers that you thought --

8 MR. FAZIO: Yeah, why don't you go ahead  
9 and mark the papers that you think are relevant.

10 THE WITNESS: Well, I'll just put a mark  
11 by it.

12 I think that one is because there's -- it  
13 was transport and fate modeling based on  
14 partitioning principles and time-dependent  
15 accumulation and excretion or loss of material. And  
16 that's -- those principles certainly are used in the  
17 retrospective assessment performed by the science  
18 panel.

19 QUESTIONS BY MR. FAZIO:

20 Q. And, Doctor, why won't you just go ahead  
21 and mark the ones that you think are relevant, and  
22 then we can -- I can follow up with you on.

23 MR. MCWILLIAMS: Particularly relevant?  
24 Because I think he testified that he thinks they're  
25 all relevant.



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 MR. FAZIO: Yeah, that's fair.

2 Particularly relevant.

3 THE WITNESS: Particularly relevant?

4 QUESTIONS BY MR. FAZIO:

5 Q. Yeah.

6 A. All right. All right.

7 I was inclined to check more, but I  
8 refrained and selected the ones I think are most  
9 highly relevant.

10 Q. Okay. And so you just indicated by a  
11 checkmark next to the particular -- the papers that  
12 you --

13 A. I did.

14 Q. Okay. And that's on Exhibit 3?

15 A. Yes.

16 Q. Okay. Doctor, have you ever -- prior to  
17 this case, have you ever done any work involving  
18 PFOA?

19 A. No, I have not worked with PFOA prior to  
20 working on this case.

21 My area of expertise is in exposure  
22 assessment and risk analysis for chemical hazards  
23 and other types of hazards. PFOA clearly is a  
24 chemical. It fits in my domain.

25 Q. Any prior work involving PFOS?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Are you familiar with PFOS?

2 A. I am familiar with that.

3 No, the same response as to your question  
4 about PFOA.

5 Q. Okay. How about just perfluorinated  
6 compounds generally, any work involving  
7 perfluorinated compounds generally?

8 Prior to this -- your work in this case.

9 A. No, not specifically.

10 Q. I noted in your -- in the description of  
11 your background either from your CV or your report  
12 that you've done some work for 3M in the past?

13 A. I have.

14 Q. Okay. And what sort of work have you done  
15 for 3M?

16 A. The work that I've done with 3M is related  
17 to indoor air quality within homes.

18 Q. And was that -- was that a litigation  
19 matter or was that a general consulting matter?

20 A. General consulting.

21 Q. And what was the indoor air concern that  
22 you were addressing?

23 A. Oh, it -- we were addressing constituents  
24 of indoor air that can be a cause or contributor of  
25 airways -- upper airways and lower airways

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1     aggravation or illness.

2           Q.   And was this in a particular geographic  
3     area?

4           A.   No. No. No. Although I think some of  
5     our analysis was centered on a geographic area. I  
6     don't remember which one now, but it was -- we were  
7     evaluating the efficacy or expected efficacy of 3M  
8     products for filtering indoor air.

9           So the question is how much, if at all,  
10    would you expect those products to reduce exposures,  
11    and what benefits public health-wise could you  
12    expect.

13          Q.   I see.

14          And approximately when did you do that  
15    work?

16          A.   Let's see. I worked with them, let's say,  
17    on and off for the last -- over the last three or  
18    four years.

19          Q.   Is that -- is that project ongoing?

20          A.   No.

21          Q.   Have you done any other projects for them,  
22    for 3M?

23          A.   No, not that I can recall.

24          Q.   All right. Doctor, if you'd pull out  
25    Exhibit 5 --

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Okay.

2 Q. -- it's attachment 3 to your report, your  
3 list of trial and deposition testimony in the last  
4 four years.

5 A. Yes.

6 Q. Okay. So let's just run through these  
7 quickly.

8 The first case that's listed there, BP  
9 1330 Connecticut Avenue, LLC, versus Burger 1300 --  
10 I assume that's Connecticut Avenue, LLC?

11 A. Yes.

12 Q. What was that case about?

13 A. That was about concerns about indoor air  
14 quality impacts in -- in a commercial office  
15 building in Washington, DC.

16 Q. And who retained you in that case?

17 A. Counsel who represented the defendant.

18 Q. And who was that?

19 A. This Burger 1300 Connecticut Avenue.

20 Q. No, I'm sorry. Who was the counsel, not  
21 who was the defendant?

22 A. Sorry.

23 I don't remember the person's name.

24 Q. And what was the nature of your testimony  
25 in that case?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Let's see. The nature of my testimony  
2 was -- it was potential impacts of emissions from  
3 the defendant's facility on indoor air quality in  
4 this commercial building.

5 Q. And what sort of facility was the  
6 defendant's facility?

7 A. It was a restaurant.

8 Q. It was a -- sorry?

9 A. A restaurant.

10 Q. A restaurant?

11 A. Uh-huh.

12 Q. Okay. You testified at trial; is that  
13 accurate?

14 A. I did.

15 Q. Okay. And were you deposed?

16 A. I don't believe so.

17 Q. Okay. Atwood versus Weyerhaeuser?

18 A. Yes.

19 Q. Next one down, tell me about that case.

20 What was your role in that case?

21 A. My role was exposure analysis for reduced  
22 sulfur compounds that originated from a pulp and  
23 paper mill.

24 Q. Okay. And you testified on behalf of the  
25 plaintiff in that case?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Yes. I was retained by counsel for the  
2 plaintiff.

3 Q. And so it indicates here you were deposed.  
4 Was there trial testimony?

5 A. No.

6 Q. Bearden? The next one down?

7 A. Yes.

8 Q. Okay. What was that case about?

9 A. That case was about potential residential  
10 indoor air quality impacts associated with operation  
11 of a commercial air cleaning device, an electronic  
12 air cleaner.

13 Q. So it was a commercial air cleaning  
14 device, you said?

15 A. Commercial, I mean, it's -- it's available  
16 to purchase by people like you and I.

17 Q. Okay. And what was the nature of your  
18 testimony in that case?

19 A. The nature of my testimony was about -- or  
20 the nature of my testimony was that ozone  
21 concentrations in -- in a home, or in a pair of  
22 homes, and potential association with the air  
23 cleaning device.

24 Q. And the last one, Town of Lexington, it  
25 says, versus Pharmacia versus Pharmacia.

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 I'm assuming that's --

2 A. That doesn't seem right.

3 Q. I'm assuming that's a typo.

4 What was that case about?

5 A. That -- that case was about a chemical  
6 known as polychlorinated biphenyl and its former use  
7 in certain building materials.

8 Q. And what was the nature of your testimony  
9 in that case?

10 A. The nature of my testimony was the  
11 disposition of these -- of this chemical and the  
12 associated materials in buildings and approaches for  
13 mitigating that -- those chemicals in those  
14 buildings.

15 Q. And that's the town of Lexington,  
16 Massachusetts?

17 A. That is.

18 Q. And you were deposed.

19 Was there trial testimony in that case?

20 A. No.

21 Q. Okay. Is the case still ongoing?

22 A. Yes.

23 Q. Is it the only one on this list that's  
24 still ongoing?

25 A. No. The Bearden and Rehberger is ongoing,

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 I believe.

2 Q. Have you ever been a party to a lawsuit?

3 A. Myself? Not that I know of, no.

4 Q. You personally have never been?

5 A. No.

6 Q. Okay. Have you ever had any of your  
7 opinions or testimony limited or excluded in any of  
8 the cases you've worked on?

9 A. Yes, it happened once.

10 Q. Tell me about that.

11 When did that happen?

12 A. That happened in 2000 -- mid 2000s,  
13 approximately.

14 Q. And what court did that occur in?

15 A. That occurred in --

16 Q. If you recall.

17 A. It was a court in Delaware.

18 Q. Okay. Delaware.

19 Any other times your testimony has been  
20 limited or excluded?

21 A. No.

22 (MacIntosh Exhibit 18 marked for  
23 identification.)

24

25 QUESTIONS BY MR. FAZIO:



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Q. Doctor, I'm handing you what's been marked  
2 as Exhibit 18.

3 Sorry to throw it at you there.

4 That's the notice of deposition for  
5 today's deposition.

6 Have you seen that before?

7 A. Yes, this was sent to me.

8 Q. Okay. Could you just flip to the back  
9 page of it?

10 There's a list of materials that we  
11 asked you to brought {sic}, and counsel produced a  
12 number of documents today in response to that.

13 Is there anything else on that list that  
14 you think is responsive that you didn't provide to  
15 counsel?

16 MR. MCWILLIAMS: Well, I'll just note for  
17 the record that we did file objections to the notice  
18 as beyond what's required under the rules --

19 MR. FAZIO: Okay.

20 MR. MCWILLIAMS: -- and we guided  
21 Dr. MacIntosh with respect to what was produced,  
22 so...

23 MR. FAZIO: Okay.

24

25 QUESTIONS BY MR. FAZIO:

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 Q. So to the best of your knowledge, you've  
2 produced everything responsive that's required under  
3 the notice?

4 MR. MCWILLIAMS: He provided everything I  
5 asked him to provide.

6 MR. FAZIO: Okay. Fair enough. All  
7 right.

8 QUESTIONS BY MR. FAZIO:

9 Q. Doctor, over the past five years, what  
10 percentage of your work would you say has been  
11 litigation related?

12 MR. MCWILLIAMS: You mean by time or by  
13 income or...

14 QUESTIONS BY MR. FAZIO:

15 Q. By -- let's say by time.

16 A. Me personally?

17 I would say a third, approximately.

18 Q. And when you're retained in a litigation  
19 matter -- take a step back.

20 Does your personal income vary depending  
21 on the amount of work you're bringing into EH&E?

22 A. No.

23 Q. No.

24 You just have a salary, and you receive  
25 your salary and --

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. That's correct.

2 Q. All right. And your work on litigation  
3 matters, the revenue that's generated from those  
4 cases all goes to EH&E?

5 A. Yes.

6 Q. Do you have an ownership interest in EH&E?

7 A. Well, we're -- I do. We're an employee --  
8 what are we -- an ESOP. So it's an employee stock  
9 ownership program. So every employee who's been  
10 with the company for I think it's at least a year,  
11 what would you say, accrues a portion of the equity.

12 Q. And how many employees does EH&E have,  
13 roughly?

14 A. Yeah, I think it's about 85 if you include  
15 people who are full-time and people who are  
16 part-time.

17 Q. And I think you mentioned the office is in  
18 Needham; is that correct?

19 A. Yeah, Needham, Massachusetts.

20 Q. Okay. Are there any other offices?

21 A. No, we don't have any other offices.

22 Q. Prior to working -- well, have you ever  
23 worked with a -- anyone from the law firm of  
24 Douglas & London in the past?

25 Aside from this case?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. Yes. I've worked with them. I haven't  
2 been retained by them.

3 Q. Okay. And what was the context that you  
4 worked with them in?

5 A. It was data analysis related to a  
6 litigation matter.

7 Q. And was this a litigation matter you were  
8 disclosed in, to the best of your knowledge?

9 MR. MCWILLIAMS: No.

10 THE WITNESS: Not to my knowledge.

11 MR. MCWILLIAMS: It was not disclosed.

12 MR. FAZIO: It was not disclosed.

13 QUESTIONS BY MR. FAZIO:

14 Q. Aside from that case, any other cases  
15 where you've worked with Douglas & London? This  
16 case and the case you just referred to?

17 A. Not that I recall.

18 Q. Okay. How about the law firm of Cory  
19 Watson, are you familiar with that law firm?

20 A. No.

21 Q. Okay. Taft Stettinius, are you familiar  
22 with Taft Stettinius?

23 A. I think I've heard the name.

24 Q. Okay. Have you ever -- to the best of you  
25 knowledge, have you ever been retained by Taft?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. No.

2 Q. Okay. And you've been retained in the  
3 past by the law firm of Levin Papantonio, correct?

4 A. Yes, I have.

5 Q. Okay. Over the years, how many times  
6 would you say you've been retained by Levin  
7 Papantonio?

8 A. I can think of four, including this one.

9 Q. And across these four cases, can you give  
10 me an estimate of how much you've been paid, or EH&E  
11 has been paid?

12 MR. MCWILLIAMS: Object to form.

13 THE WITNESS: Well, EH&E charges a client  
14 like Levin Papantonio for the time that we work on  
15 the matter.

16 I mean, I could guess. I don't know --

17 QUESTIONS BY MR. FAZIO:

18 Q. Well, give me your best estimate if you  
19 can.

20 A. I would guess -- I would guesstimate or  
21 guess maybe \$800,000.

22 Q. Over the four cases?

23 A. Yes.

24 Q. Okay. What did you do to prepare for your  
25 deposition today?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1       A. Well, I reviewed my report, I reviewed the  
2       material I received subsequent to my report, and  
3       I -- which -- including the information that I  
4       gathered that we talked about earlier in January  
5       that I did explicitly to prepare for this deposition  
6       and any future needs.

7       Let's see. I came to St. Louis  
8       yesterday -- no, Monday night, and I -- and I met  
9       with Mr. McWilliams and others yesterday for about  
10      three hours, and we just reviewed my report.

11      Q. Anything else that you did to prepare?

12      A. Those are the major activities.

13      Q. Did your -- at your meeting yesterday, did  
14      you review any documents in preparation for your  
15      deposition?

16      A. Let's see. I reviewed my report. I --  
17      that I recall. May have reviewed some of the  
18      papers, so like the Shin water distribution, you  
19      know, drinking water modeling paper that we  
20      discussed earlier today.

21      Q. Had you reviewed -- did you review any  
22      documents that you hadn't seen before yesterday?

23      A. No, I don't recall doing that.

24      Q. Okay. All right. Doctor, obviously the  
25      point of today's deposition was to make sure that

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 the defendant has a complete understanding of the  
2 opinions you're going to give at trial. And we've  
3 talked extensively about the opinions set forth in  
4 your December 8, 2014 report and the bases for those  
5 reports -- or the basis for those opinions.

6 Is there anything about the opinions that  
7 you express in your December 8, 2014 report that we  
8 haven't fully discussed today?

9 MR. MCWILLIAMS: Object to form.

10 THE WITNESS: Well, I think -- I think  
11 it's more of a question for you.

12 Certainly we didn't pull out every single  
13 document associated with a footnote in my report,  
14 but I leave that to you to decide if you want to  
15 look at that or not. But I do believe that we  
16 covered the crux of it.

17 QUESTIONS BY MR. FAZIO:

18 Q. Okay. And the opinions that you intend to  
19 testify to at trial are contained within your  
20 December 8, 2014 report?

21 A. Well, as I said before, I'm -- I will  
22 answer any other questions that are posed to me, you  
23 know, today or in -- in the future.

24 Q. Doctor, have you been asked to do any  
25 additional work on this case?

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 A. No.

2 Q. And do you have -- currently have any  
3 plans to do any work on this case?

4 A. No.

5 MR. FAZIO: Okay. All right. Doctor,  
6 that's all I have for now. Thank you for your time.

7 THE WITNESS: Thank you.

8 MR. MCWILLIAMS: Let's go off the record.

9 VIDEOGRAPHER: We're off the record.

10 (Off the record at 1:09 p.m.)

11 MR. MCWILLIAMS: I have no questions.

12 Thank you for your time, Doctor.

13 THE WITNESS: You're welcome.

14 MR. DOUGLAS: We had sent notice to  
15 defense counsel, to Damond Mace specifically, that  
16 we were withdrawing a Dr. Stein and Dr. DeYoung as  
17 experts for the -- the trial. And, therefore, their  
18 depositions were no longer necessary.

19 And just wanted to give you guys notice  
20 they would not -- those deps weren't going forward.

21 We hadn't heard back from Damond. I  
22 wanted to make sure that the message was --

23 MR. FAZIO: The message got passed along.

24 Thank you.

25 (Deposition concluded at 1:10 p.m.)



Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 CERTIFICATE OF DEPONENT

2  
3 I hereby certify that I have read and examined the  
4 foregoing transcript, and the same is a true and  
5 accurate record of the testimony given by me.

6 Any additions or corrections that I feel are  
7 necessary, I will attach on a separate sheet of  
8 paper to the original transcript.

9  
10 \_\_\_\_\_  
11 Signature of Deponent

12  
13 I hereby certify that the individual representing  
14 himself/herself to be the above-named individual,  
15 appeared before me this \_\_\_\_\_ day of \_\_\_\_\_,  
16 2015, and executed the above certificate in my  
17 presence.

18  
19 \_\_\_\_\_  
20 NOTARY PUBLIC IN AND FOR

21  
22 \_\_\_\_\_  
23 County Name

24  
25 MY COMMISSION EXPIRES:

Unsigned

Page 145

Expert 2015-3-18 MacIntosh 3/30/2015 2:13:00 PM

1 DEPOSITION OFFICER'S CERTIFICATION

2 I, Carrie A. Campbell, Registered  
3 Professional Reporter, Certified Realtime Reporter,  
4 a Certified Shorthand Reporter in the State of  
5 Missouri and Illinois, certify:

6 That the foregoing proceedings were taken  
7 before me at the time and place therein set forth,  
8 at which time the witness was put under oath by me.

9 That the testimony of the witness and all  
10 objections made at the time of the examination were  
11 recorded stenographically by me and were thereafter  
12 transcribed.

13 That the foregoing is a true and correct  
14 transcript of my shorthand notes so taken.

15 I further certify that I am not a relative  
16 or employee of any attorney or of any of the  
17 parties, nor financially interested in the action.

18 I declared under penalty of perjury under  
19 the laws of the State of Missouri that the foregoing  
20 is true and correct.

21 Dated this date: March 29, 2015  
22  
23

24 CARRIE A. CAMPBELL, RPR CRR CSR CCR  
25

Unsigned

Page 146